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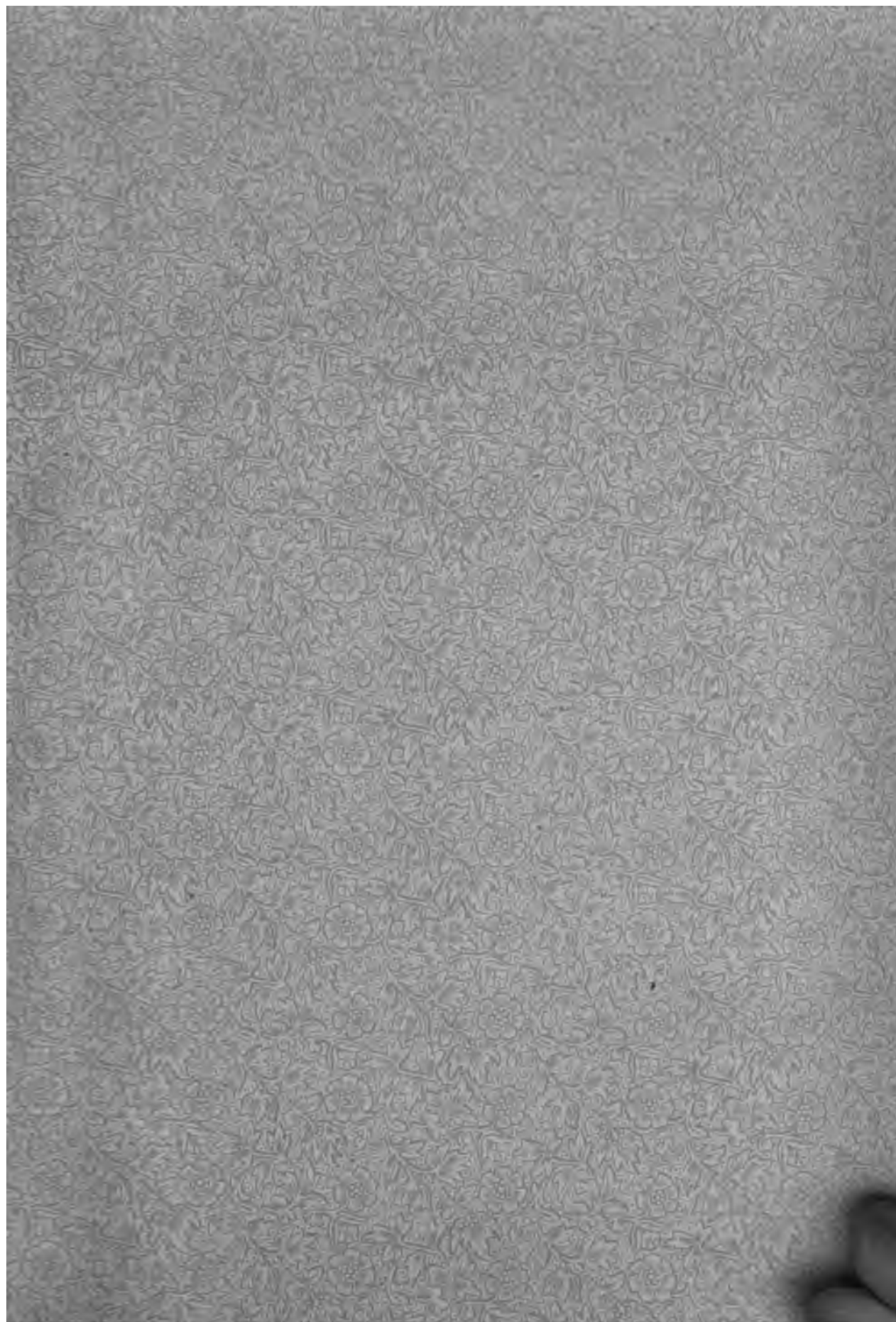
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THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY
FRANCIS M. STALKER AND CHARLES M. CURRY

AUGUST, 1896

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JAMES MCCOSH, D. D., LL. D.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

VOL. III.

AUGUST, 1896.

No. 1.

JAMES MCCOSH.

ALEXANDER T. ORMOND.

Professor of Mental Science and Logic, Princeton University.

TO ESTIMATE a great man adequately we must take into account his heredity, his home life and training, his education, and the social and intellectual environment in which he grew to maturity. James McCosh was a Scot, of a sturdy and God-fearing stock, from which he inherited the unyielding granite of his character. His home training was of the best. His father, Andrew McCosh, who died when young James was only nine years old, was a simple and noble type of man, who might have stood as model for Burns's hero in the Cotter's Saturday Night. The stock on the maternal side was equally sterling, and the boy owed much to his excellent mother. His early education was obtained at the parish school to which he was sent in his sixth year. Here he came under the instruction of a Mr. Quentin Smith, a master of unusual excellence, of whom he has spoken in high terms of praise. From the parochial school he went at the early age of thirteen to the University of Glasgow, where he spent five years, not particularly distinguishing himself, but performing his duty faithfully and laying the foundation of a solid education. From Glasgow he went in his eighteenth year to Edinburgh, in which famous seat of learning he spent the next five years of his life, completing the theological course under such men as Welch and Thomas Chalmers, the latter of whom powerfully influenced

him, both by his strong personality and by the impressive character of his teaching. He also pursued a range of literary, scientific and philosophical studies outside of the subjects of the theological curriculum. Here he came under the instruction of the celebrated Sir William Hamilton, who gave him, perhaps, his most powerful intellectual stimulus, and at the close of his course at Edinburgh, being impressed by an essay which young McCosh wrote on the *Stoic Philosophy*, personally presented his name to the Faculty for the degree of Master of Arts.

After ten years of university study young McCosh was more than ordinarily well prepared for the active work of the ministry on which he now entered. In this vocation he spent the next seventeen years of his life, first in the parish of Brechin as a member of the Established Church of Scotland, and after the secession in 1843, in which he participated, as a minister in the Free Church of Scotland and pastor of a charge in the same parish. He carried his scholarly interests with him into the ministry, spending part of his leisure in botanical observations and following with intelligent appreciation the development of the geological and biological sciences and the controversies which arose out of them. His chief intellectual interest was, however, in the problems of philosophy. Identifying himself

from the first with the Scottish School of Reid and Stewart, the negations reached by Hamilton in the sphere of metaphysics and religion had profoundly stirred him and ultimately confirmed his belief in the intuitional position. The result of his reflection and study in this field led in 1850 to the publication of his first important work, *The Method of the Divine Government Physical and Moral*, in which he unfolds a theistic and religious theory of the world founded on fundamental and intuitional principles of the human mind. This work made his reputation as a scholar and thinker, and he was offered on the recommendation of Clarendon, Lord-Lieutenant of Ireland, the Chair of Logic and Metaphysics in the recently founded University of Belfast, which he accepted, and entered on his professional duties in 1852.

Thus was inaugurated that educational career to which he was to devote the remainder of his life. Although some criticism had been aroused by the appointment of the "Saxon McCosh," as Thackeray termed him in his genial pleasantry, to a position in a Celtic school, it soon became apparent that no mistake had been made. Professor McCosh proved himself a brilliant and inspiring lecturer as well as a conscientious and painstaking instructor, and was soon a leading man in his university, as well as a prominent actor in educational and religious movements outside. His students were stimulated to advanced study, and many of them rose to eminence as specialists, as educators, and in political and religious life. He performed a leading part not only as a teacher, but also as an organizer in shaping the educational policy of the young institution with which he was connected. Amid all this activity Professor McCosh was the thinker and philosopher. In collaboration with a colleague, George Dickey, he published a treatise on *Typical Forms and Special Ends in Creation*. Aroused by John Stuart Mill's destructive criticism of Sir William Hamilton's work, he pub-

lished his own elaborate *Defense of Fundamental Truth*, a critical examination of the philosophy of Mill. And as a statement of his own fundamental positions in philosophy, he published his work on *The Intuitions of the Mind Indirectly Investigated*. These works show the ripe scholar, the strong, clear thinker, the alert, active mind, the profound philosopher. In them he affirms the fundamental intuitional positions against agnosticism, empiricism, and relative and phenomenal theories of knowledge.

While Dr. McCosh's reputation as a thinker and writer spread over Europe and America, his educational activities began to transcend the walls of his own university. He devoted himself to the advocacy of a system of intermediate schools to prepare candidates for the universities; also to the development of a system of elementary education for the Irish nation. He served as examiner for the Queen's University of Ireland, and also for the Ferguson Scholarships established in connection with the Scottish universities. He was a member of the Board of Examiners who organized the competitive examination for the civil service in India, in which his own pupils were eminently successful from the beginning, numbering among them Sir Robert Hart, the present Chief of the Chinese Customs Service. He also visited and studied the educational systems not only of Great Britain but also of Russia, in whose schools and universities he spent several months in 1858. In 1866 he visited the United States where he met a cordial reception, spending several months and traveling over seven thousand miles, making himself acquainted with the conditions and methods of our leading schools and seminaries. Nor were his activities confined exclusively to educational interests. When he became a professor he did not drop the minister and churchman. He had participated in the Free Church movement in Scotland, and his voice was raised in favor of disestablishment

the courses of study were multiplied many fold with opportunities for specializing in classics, mathematics, English and modern languages, politics and history, archaeology, jurisprudence and philosophy. In this transformation a solid nucleus of compulsory studies was retained leading to the various degrees, but to these studies was added gradually, almost every important branch of learning and to the student was allowed a graduated scale of freedom culminating in almost unrestricted freedom of elective choice in senior year. Advance attainments were encouraged by the establishment of numerous prizes as rewards for high scholarship, by the endowment of scholarships and competitive fellowships in the leading departments, and finally by the organization of graduate departments of study leading systematically to the higher degrees, in connection with which a number of university fellowships were founded.

This development of the courses of study was accompanied by a continual increase in the student body and a great enlargement of the teaching force of the institution. New blood was introduced into the faculty, courses were multiplied and enlarged and better methods of instruction were adopted. During the twenty years of Dr. McCosh's administration the number of students swelled from two hundred and fifty to six hundred, while the faculty was increased from sixteen to forty-five, some of the new additions being distinguished men like Professor Young, from the outside, while many were Dr. McCosh's own pupils. The material development kept pace with the growth of the intellectual forces of the institution. At first the buildings were few and inadequate for the requirements of the college. The library was small, there were almost no laboratory facilities, and the campus, while dotted with magnificent elms was unkempt and unlighted. The change soon became manifest. Building after building was erected until the grounds were cov-

ered with structures that served as models of convenience and architectural solidity and beauty. The campus was enlarged, lighted and beautified. The library was increased and put into more efficient order. New laboratories, to meet the growing demands for advanced study and research, were built. Larger and better recitation halls and more comfortable accommodations for students appeared, and when Dr. McCosh laid aside the insignia of office in 1888, he left a university in everything but the name.

President McCosh did not give up his whole energy to the administrative work of the college. He lived a three-fold life, combining his practical activity with the functions of thinker and teacher. He was not satisfied simply to administer the affairs of the college; he was desirous of entering into its inner life and shaping the culture it was giving its students. To this end he assumed the teaching function and became the leading instructor in his own institution. As a teacher he carried with him the methods and aims of the Belfast professor. Those of us who were his pupils in the zenith of his powers know what an inspiring teacher he was. His class-room was always a scene of animated interest. In personal appearance he was over six feet high and strongly built, with a kingly head set on shoulders that showed something of the scholarly stoop, an eye that was always keen, shrewd and kindly, now burning with an unwonted fire, a manner that was always alert and nervous and sometimes vehement and imperious. The whole magnetic dominating and often overwhelming personality of the man needs to be included in any adequate notion of his power as a teacher. He gave instruction in psychology, the history of philosophy, in addition to graduate courses in phases of contemporary thought. In all his teaching the lecture held the place of honor in his method. His lectures were brilliant and scholarly; clear, lucid and logical; masterly in their grasp, packed with illustrations

from a wide store of reading and observation, finished and often beautiful in style. They were delivered, not as dry and formal disquisitions, but were instinct with the living force and personal energy of their author. The student was as a rule interested, stimulated and edified. In many cases he was roused to a kind of thinking he had never dreamed of before, and to a thirst for knowledge that led him on to advanced study and independent investigation. The lecture was supplemented by the recitation which came at regular intervals and was founded on the lectures and works for collateral reference; by occasional essays on assigned topics; by personal advice and direction in study and reading, and by examinations that were rigid and searching. The teaching function of Dr. McCosh was directly connected, also, with the prizes and fellowships of the department of philosophy, the graduate courses, and advanced degrees, and with certain stated meetings in the President's library, where students of the upper classes who were specially interested, assembled to hear addresses and participate in discussions upon live philosophical themes.

These dual functions of administration and teaching did not interrupt Dr. McCosh's activity as a thinker and writer. The fruitfulness of his pen was something remarkable. He kept pouring out a continuous stream of pamphlets, brochures, lectures, sermons, and addresses on a variety of leading topics of the times. His resources as a pamphleteer seemed to be exhaustless. But the major part of his activity was reserved for works of a more solid and durable character. He published a treatise on *Logic*, a volume of lectures on *Christianity and Positivism*, a series of brochures on *Realistic Philosophy* afterwards issued into volumes; a *History of the Scottish Philosophers*; a treatise on *Psychology* in two volumes, and a work in metaphysics entitled *First and Fundamental Truths*, besides several smaller treatises of considerable importance. These works not only evinced the abundant activity of

his mind but also served to enhance his reputation and influence as a philosophical thinker.

In philosophy Dr. McCosh stood for a few well defined positions. In psychology he was a natural dualist, asserting the distinction between mind and matter and the real individuality of mind. In epistemology he was a realist standing for the reliability of the senses in the sphere of perception, and the authority of intuitional principles as grounds of our higher convictions. He stood firm for positive knowledge and positive belief, and was the foe of every form of agnostic and negative creed. In metaphysics he was opposed to materialism, and while affirming the reality of the physical world, maintained that the material must be ultimately grounded in the spiritual. In his *Philosophy of Religion* he was a convinced theist, referring the world to its first cause in the intelligent purpose and creative volition of a personal God. His philosophical creed was not a mere intellectual belief but part of the living force of the man, which had united with the current of his religious conclusion. For, Dr. McCosh combined the practical wisdom and philosophical grasp of the sage with a reverent adherence to the faith of his fathers, and a simple and unqualified acceptance of the great doctrines of the Christian religion. He had been a Christian minister before he became a great teacher and philosopher, and into all his later work he carried something of the earnest piety and warm-hearted interest in the moral and spiritual welfare of men that had characterized him in his pastoral relations at Brechin.

An adequate notion of Dr. McCosh's greatness as an educator can be formed only when we take into consideration the three-fold activity of his life: his administrative and organizing force, his ability as a teacher and his power and eminence as a thinker and author. All these elements were fused into personal force and translated by a commanding intelligence and an overmastering

will into effective energy. It is only in view of this that the work he was able to accomplish becomes intelligible. He was accustomed to succeed in the great enterprises of his life and could look around with a pardonable degree of egotism on the results he had achieved. In his inaugural, on assuming the presidency of Princeton, he outlined a policy foreshadowing great things that were to be done for the college and for the cause of academic education. Twenty years later, in his farewell address, he could point with exultation to the substantial realization of his promises. It was there around him embodied in architectural monuments of stone, in overflowing halls and classrooms, in a large and enthusiastic teaching force, in a revolutionized curriculum and facilities for university work, in the devotion and loyalty of friends and patrons, in the *esprit de corps* of an organized and enthusiastic alumni. Verily he could say, "I have kept the faith, I have fought a good fight, I have developed the old college to the proportions and dignity of a university, and though it is given to me as to the mighty men of old only to catch a glimpse into the promised land, I can leave the work I have begun in other hands with the abiding faith and hope that they will carry it on to completion."

While the major part of Dr. McCosh's energies were absorbed in the development of Princeton, he took an active interest and share in the educational movements of the country. He was interested chiefly, of course, in college and university education, and here he represented well defined ideas for which he contended with the dialectical skill of a born controversialist and the courage of his convictions. He stood for the

retention of Greek in the requirements for the Arts degree, on account of its educational value; for a curriculum of studies that should combine a nucleus of solid requirements with a graduated scale of elective freedom; for the moral and religious instruction of the student body combined with the largest intellectual freedom and the most scrupulous regard for private conviction; for a union of the college and university functions proper in conserving a liberal education on the one hand and the promotion of specialization and high scholarship on the other. He was also deeply interested in the development of the middle and preparatory schools and gave his energies to bringing them into a higher state of efficiency and into closer correlation with the higher institutions. And he was also a friend of our great public school system, understanding its importance and following its development with interest and appreciation.

Dr. McCosh stood always for the unity of the educational forces and elements, for the unity of culture and life, and for the unity of culture and religion. To him there was a serious menace in the tendency to separate religion and education. He was convinced that the moral and religious training of the youth of our land is as vital an interest to the republic as the culture of the intellect. And he felt with profound conviction that schemes of education, whether for universities or public schools, which shirked responsibility in the sphere of morals and religion, and favored a divorce of religion and culture, were false in theory and would be, in their final outcome, disastrous in practice.

PRINCETON, NEW JERSEY.

If parts allure thee, think how Bacon shined,
The wisest, brightest, meanest of mankind!

POPE.—*Essay on Man*.

THE INTELLECTUAL LIFE OF THE TEACHER.

SUPERINTENDENT WELFORD D. WEAVER.

LORD BACON, in his *Maxims of the Law* wrote, "I hold every man to be a debtor to his profession." In like manner a teacher should cherish an honest pride in his profession. It ought to be the aspiration of those who are called by the honored name of teacher to do something which would bring additional honor to the profession—which would add to its scientific advancement, and give it a strong mental uplift. A teacher should ever have a high ideal of a purely pedagogical character before him, but he should not at any time lose sight of the final purpose of his work. Much must be given to methods, to principles, to the strictly professional side of the calling, yet intellectual qualifications and attainments come in for their share of time.

We may take almost as a maxim that the breadth of intellectual and spiritual qualifications measures the breadth of true success in the school-room. Not that it is not possible to be a true teacher without high, scholarly attainments, but that the person who with little culture succeeds, with greater culture would succeed better; and that success is largely dependent upon the amount and quality of intellectual life possessed by the teacher. A man's power to teach is in proportion to his power to appropriate truth with which he is constantly surrounded. I like that doctrine which connects all truths into a central truth; and he, who can see these things and their relations to each other and to the whole, has within him the power to excite in others great desires and sublime conceptions. And he will be able to take others in this study just as far as he has gone himself and no farther. The teacher moves in a different atmosphere from those in other callings. While this may be fully true there is nothing strained or unnatural demanded. A certain tension of intellectuality is expected by the community to be

maintained; that the teacher dare not disappoint. The work in which we are engaged demands the very best intellectual effort possible, and nothing less than this is worthy of us. We may say that we love children and that the children love us, essential elements of a true teacher; we may say that our character is unblemished, without which no one should be allowed to pose as a teacher; but these things will not make up for scholarship. It is only the well educated mind that can go to the depths of a subject, or to the depths of a mind and understand its workings and anticipate its wants. The scholarship of which I am speaking does not come by inspiration, but to those only who are willing to pay its price.

MENTAL POVERTY.

Scholarly culture is valuable to the teacher because it tends to prevent mental poverty. Some one has said this relative to clergymen, that "As they are debarred, or at least checked from much personal every-day business contact with strong-headed men, they should bring their minds into contact with masculine intellects in their libraries." If this be true of that profession it is doubly true with us who teach. We deal not with strong-minded men and women, but with the undeveloped mind of childhood, and should we come before such possibilities but with the very richest condition of mind and heart we would be traitors to the great trust given into our hands. An instructor that fails to keep up with his studies is on the certain road to bankruptcy. In the course of years two teachers side by side in the same schools, the one a student and the other simply living upon his stock in trade, will be discovered to be gradually growing apart. The studious one will grow in the estimation of the public, his opinion will be valued, increased responsibility is placed upon him, and he

will be able to rise with the increase of pressure. The one who does not continually study will inevitably lose the respect of the public, deteriorate as a teacher, and finally will not be able to find a position in the ranks. President Wayland's rule to increase the power of mind was to use the mind to the utmost. If a man wants to be a thinker he must think, and think hard. If he would be a reasoner he must reason, and reason to the very limit of his powers. A teacher can get along for a time without much thinking or new study, for he is in advance, in knowledge, of his pupils; but it does not take many terms to indicate to the pupils that he is doing the same thing over and over again just as it was when he began. Because the pupils know less than the teacher, or because the patrons of the school do not object, will not justify the lack of great energy of mind on the part of the teacher.

Much has been said about clergymen being dull and prosy, and no one has been more severe in criticism of the poor preacher than teachers. There is as great demand for broad scholarship and daily study in the teacher as in the clergy. Have not the children as good right to something fresh and vigorous and attractive in the public schools as the congregation at worship on Sunday morning? There is an every-day imperative need of constantly filling up the cask. We are drawing from it constantly, and unless it is replenished from time to time we cannot draw always. We ought to have more in store than we need for daily use. The reserve fund of mental force ought to be large, for we do not know how large a draft will be made nor at what time. Mind power can be exhausted like an account at bank. This reserve fund is of vital importance in every department of human activity. Sooner or later you will be called upon, and if you have toiled long and patiently you will have a reserve that will serve you in good stead. It is the boy in the counting-room, who makes it a point to

master the details of the business, that becomes after a while the partner. The clergyman who is a profound student and knows men and affairs, does not preach to empty pews. He neither exhausts himself or his hearers at each service. The same thing is true of intellectual knowledge. Our capital there is like other things. If we would have our drafts honored we must constantly keep accumulating. It does seem that for the demands upon his own mind—for increase in mental power—for this mind richness—every teacher should be a model student, with fixed habits of study.

ONE-SIDED DEVELOPMENT.

Intellectual culture prevents one-sided mental development. One of the easiest things to do in the world is to become one-sided, to measure everything by one's own standard of measurement. Nothing new is admitted into the mind for fear that the mental equilibrium will be disturbed. From the very nature of the teacher's work there is great danger that the mind will be heavy-sided, and finally will cease to grow. Variety is the great law of mental health and symmetrical development. Some years ago Mr. Gladstone was asked how he managed to do so much work and keep his energies so fresh. He replied that in his younger days there was a bit of road running out of London which had the reputation of killing more horses than any other road in the country. Why? Was it hilly? No, it was absolutely level, and that was the reason for it. A dead level takes more life out of a horse than a succession of hills; and as with horses so with men. Charles Darwin, who set the world to thinking along certain lines of science, found to his sorrow in after life that he could not read Shakespeare. With his manly honesty he assigned as his reason that he had made his mind a great machine for grinding out general laws from masses of facts, and that in the process the imaginative faculty had perished from lack of use. There are many persons who are per-

mitting this condition to come upon them out of sheer stupidity and sordidness of aim. They have never taken the trouble to ask themselves or others what is the best life to live. They have found themselves on the straight, level road of every-day life, and after a few ineffectual struggles to be something more have given up and yielded to the force of the routine life. I have often wondered how many teachers have yielded to this mental poverty until now about all they allow their eyes to rest upon, and minds to gather strength from, are the text-books of arithmetic, grammar, reading, geography, etc., and the current news of the day. There is no attraction to such persons in a library though the wealth of a world's literature lies all about them. The books which have been the consolation of the lonely, the inspiration of the heroic, the meat and drink of the thoughtful, the records of those who have moved the springs of human progress are there, but all of this is an alien world to such minds.

I utter this word of warning to teachers for fear that some will take too narrow a view of their possibilities. A teacher should have a culture developed from the center outwards through all the capacities for growth. The imagination—the taste—the memory—the critical—the rational and the spiritual faculties should all be cultivated. He who would instruct others must know more and be more profoundly informed than those whom he would interest. What is more fascinating than to step into a school-room and see a teacher with intellectual margin broad enough that will enable him or her to be a perfectly free instructor? He teaches out of himself, from the inward richness of his own wisdom. The minister may know his theology, the physician may know his materia medica, the lawyer his Blackstone, the merchant the principles of business, and each of these may succeed; but what shall we say of him or her who knows only one thing and attempts to pose as a teacher—a teacher not of law, or of theol-

ogy, or of medicine, or of business, but one who deals with all of these and lays the foundation for all of these; and for all of the vast and varied duties of every-day life? I am not putting it too strongly when I say that the public school teacher by virtue of his position needs, of all the instructors of man, to be the most symmetrical, the best developed mentally and morally that it is possible to become.

REFLEX INFLUENCE.

If there were no other consideration for a broad and strong scholarship on the part of the teacher, the reflex influence of attaining intellectual strength would be sufficient to repay a thousand-fold for all the expenditure of time, and thought and energy in the acquisition of knowledge. In many callings of life, in the accomplishing of a task, the effort necessary to complete it has been of more worth than the work performed. The production of that wonderful music composition of the Messiah expanded the soul of Handel much more than it has that of the thousands who have been thrilled by it since; his soul grew by perceptible accretions as note by note the song grew. The great singer who thrills an audience by her voice stirs her own soul much more as she sings than she does those who hear. Tennyson's *In Memoriam* moved and comforted his own great being much more than the great poem has ever comforted others. If everything else that I put into this paper is forgotten, remember this one fact—that nothing great has ever been done for money. No great picture has ever been painted for money, no great song has ever been written for money, no great oration has ever been delivered for money, no great deed of any description has ever been done for money. Whenever a great song has come forth, whenever a great picture has been painted, whenever a great address has been made, whenever a great deed has been done, they have been the overflows of great souls and not done for money. The influence upon the

door has always been greater than upon the receiver. Who has not been thrilled through and through as a master has touched the keys of the great organ and made it speak the deepest emotions of his own life? How with consummate skill he sweeps the keys with such precision and feeling that the hearer is led heavenward? How like the musician is the one who becomes scholarly by seeking to know the great truths of nature, science, art, government, of man, of God? As he uncovers this or discovers that, adjusts this or perfects that, fact upon fact, law after law, principle after principle, is not such a one touching the great keyboard of the universe of truths? As this or that is developed and mastered by hard study and put into place for use, is not the student putting himself into a position by mastering these things so that he can help others? In this help has he not lifted himself nearer and nearer the heart of all truth than he has those with whom he has come in contact?

This enlarged education on the part of teachers is not that they may do better service for the State, but that they may better develop the thinking, the feeling, the willing manhood and womanhood that is within themselves. The teachers of the public schools are so many living pictures for the childhood of the land to observe. Many of my readers, doubtless, have stood at some time in life before a painting by a great master. How the soul was stirred with conceptions that were lofty, and ideals that were pure? The soul was touched by inanimate objects. So teachers stand before the

boys and girls of their school-rooms; not as inanimate objects, but as living persons. They are there, not for dollars and cents, but for the purpose of imparting conceptions of life. Silent eyes are following teachers everywhere—in the school-room and on the street. Mental images of them are being formed in the daily recitation. It is not so much what is said, as what is, that makes an indelible mark upon the children. That the boy and girl may have the highest and truest ideals, the teacher must reflect a broad and liberal culture. Whether a teacher will admit it or not he is, or at least should be, the ideal of manhood and womanhood to the pupils; that when they see their teacher upon the street, in the social circle, in the house of worship or in the school-room, they will unconsciously aspire to be like him. There is no greater thought than this, for a teacher *to be* as the teacher desires the pupils to be. The great function of the teacher is not to call the rolls, perform acts of discipline, or hear lessons recited, but to awaken and inspire the slumbering immortality that lies sleeping in childhood.

Along this very line Col. Parker said some months ago at a great meeting of teachers that we should "Exalt the common schools by the exaltation of the teacher. Make thoroughly educated men and women fully capable of taking the priceless treasures of this mighty century to the school-room, and put them in the souls of the children. Make them capable of understanding the problem of man and the destinies of humanity."

MARION, IND.

INDIANA INSTITUTE FOR THE BLIND.

SUPERINTENDENT W. H. GLASCOCK

A GREAT proportion of the people of Indiana think of this institution as an asylum where the aged and indigent blind may find permanent homes and where afflictions of the eye may be treated without cost.

Almost every mail brings letters addressed to the Superintendent of the *Blind Asylum*; applications for the admission of infirm blind persons are numerous; and not infrequently earnest friends and physicians per-

suade old and middle-aged blind people to come to the institution without application, expecting that they will here secure homes and better medical treatment.

The ideas of the teachers of the state in regard to the purposes of the Institution for the Blind are but little less erroneous than are those of the public in general. They look upon it as one of the state's benevolent institutions, but as forming no part of our system of public schools, while in fact it is as much a part of our school system as is Purdue or the State University, and is supported in the same manner. Neither is it any more an *asylum* than these excellent institutions are; nor is there any reason why persons attending this institution should be denominated *inmates*, and those attending other departments of the public schools called *pupils* or *students*.

The Institution for the education of the Blind is even more exclusive in its requirements for admission than is any other department of our school system. An applicant for admission must not only be more than six and less than twenty-one years of age, but he must have a reasonably sound body, a sound mind, and must be free from immoral habits. The necessity for these requirements is obvious.

Provision is made in our constitution for a system of public schools wherein equal privileges shall be extended alike to all. Institutions of this character are but the legitimate outgrowth of this provision. There are but few blind children in the state, and they are scattered throughout her borders. They require special care and special training. They cannot well be educated together with the seeing-children of the public schools. It is economy on the part of the state to bring them all into one institution and thus educate them rather than to provide for them special teachers and special apparatus at their homes. The state boards them, it is true, but this additional expense on the part of the state is offset by the expense and sacrifice of the parents in sending their children,

while yet so young and comparatively helpless, away from home to be placed under the care of strangers. The home life and home influences of the children are likewise sacrificed in the life of the institution. At most the state shows no greater charity in educating her blind in an institution of this kind than in educating her seeing-children in her primary and secondary schools, not to mention her higher institutions of learning in which tuition is free.

The institution maintains three departments of instruction—the literary, music, and industrial departments. The course of study in the literary department is nearly the same as the minimum course for commissioned high schools, excluding Latin. Reading, writing, and spelling, together with the fundamental principles of arithmetic are the instrumental studies and are so treated. As in the seeing-schools they are considered the basis of acquisition and impartation, and an effort is made to have all pupils well established in these subjects. The teaching of these, except spelling, is not difficult.

There are three different systems of reading taught in the institutions of the United States—the old system of raised letters, the Braille, and the New York Point—and the literature for the blind is published in all these systems. This diversity increases the difficulty of communication among the pupils educated in the various institutions, and greatly limits the literature to which they have access. It is to be hoped that those interested in the education of the blind will soon adopt a uniform system in which all text-books and all literature shall be published.

The New York Point is taught in the Indiana institution. It consists of six embossed points so arranged as to represent all the letters of the alphabet, ten combinations of letters, the punctuation marks, and numbers.

The first teaching in reading and spelling is wholly individual work. There can be no class instruction. The teacher must

guide the unskilled fingers many times from point to point, and from letter to letter before the pupil is able to distinguish the number of points and recognize the letters and words. When the child has been led successfully over this rough and weary road, teaching reading becomes comparatively easy--seemingly quite as easy as with seeing-children. It is not unusual for a pupil entering at the age of eight or nine to be able to read in the Third reader at the close of the first term.

Reading, writing, and spelling are taught in unison, the one supplementing the other. In the first part of the teaching of these subjects the primer and the perforated tablet made of wood are used. As the pupil learns the letters and the words he makes them on the tablet, using shoe-pegs to make the points. As he progresses, he is given a slate made for the blind, and he continues his work much in the same manner as do seeing-children. The same pedagogical principles that prevail among the teachers of the seeing-schools underlie all teaching done in the institution, the teachers always keeping in mind the child's limited knowledge of the outside world. There has been invented, recently, an electrotyping machine by means of which supplemental reading matter may be readily supplied. The kleidograph, a simple machine recently invented for writing Point, also makes it easy for teachers to prepare supplemental work for their pupils. These inventions have made it possible for teachers of the blind to teach "sight reading" quite as readily as it is taught in our city schools.

Almost every reading lesson contains the name of some object or relation which lies without the pupils' limited experience and knowledge. Herein lies a difficulty for the teacher, and even danger for the pupil. Unless the idea is made clear to him he simply gets a meaningless word which he will use wherever its jingle suggests. And the difficulty of an explanation is by no means a small one. The world in which we live is

a world strange to him and correspondingly strange are our ideas. To find ideas common to both worlds is the earnest duty of the teacher. At best the lessons cannot be so fruitful of meaning to our children as to children with sight. The trees and the birds, the fields and the flowers, the landscape and the clouds are to them but imaginary pictures, and the best descriptions are but feeble representations with life and color lacking. The best substitute for real, living things in class work is a collection of natural objects and mounted specimens of animals to which the pupils have ready reference. Though they do not find them filled with life and beautiful in color as we see them, yet they are very rich to them in meaning. These collections are even more fruitful in the language than in the reading classes.

In general the blind pupils spell poorly, and do not pronounce clearly or enunciate distinctly. They are lacking in the power that comes to seeing-pupils through syllabication and the form of the word as a whole. The methods and devices here used are the same as used in the seeing-schools.

There is little difference in the teaching of mathematics in the institution and in other schools, except that there is no slate nor black-board work done here. The work is mental from the beginning of arithmetic to the completion of geometry. While the pupils have access to books on these subjects, reference is rarely made to them in the class room. The elementary work is such as is done in the city schools of the state. In the more advanced arithmetic, in algebra, and in geometry, the problem or proposition is read by the teacher, then each pupil sets silently to work upon the solution or demonstration--so silently, in fact, that a visiting teacher would think that little was being accomplished. All supplemental work is read to the class at the close of the hour, and the pupils hold it in memory and prepare it for the next recitation.

Wherever objects and forms can be intro-

duced into the recitation the work is rendered more interesting and more helpful. In cube and square root each pupil is supplied with a set of cubical blocks, and each one constructs the figure as the solution proceeds step by step. In the constructive geometry work the pupils frequently prepare for the teacher figures constructed by using a common straight-edge and a simple device for perforating the paper. In demonstrating propositions they usually get the conditions, then "think out" a demonstration for themselves, independent of the one given in the text.

Language and history offer the most inviting fields for our pupils. In these studies it is possible for them to excel. In studying and in teaching these no special apparatus or devices are required. The introduction of the typewriter into the class work makes it possible for our pupils to prepare written language work quite as acceptable as can be done by seeing-children. This has opened to them a new field of interest and helpfulness. Much of the language teaching consists of composition work, beginning with simple oral sentences and advancing to critical reviews of literary productions. The highest interest in the composition work has been shown by the intermediate classes. No abstract or text-book, but real, living subjects are assigned. "The Story of the Rose," "The Autobiography of a Frog," "The Bee and the Clover Bloom," "The Robin and the Daisy," and "The Song of a Mosquito" have been the subjects of very interesting and creditable compositions. In the teaching of literature and history the teacher has much to do, as there are yet but few books published on the subjects. He must read much to his classes, and no teacher of a seeing-school ever read to pupils so earnest and interested. They must get as much as possible out of the first reading, as they have little opportunity for after-reference.

No subject holds more of interest for our pupils than the study of geography. Beau-

tiful and expensive maps of continents and hemispheres are carved from wood, and on these lakes, rivers, mountains, cities and plains are so clearly represented that no difficulty arises in determining the physical features of the country. In class work each child is furnished with an embossed paper map of the country to be studied. When the lesson begins it is like an excursion party with the teacher as guide and interpreter. With delicate touch and quickened imagination the pupils locate cities, discover islands, trace boundaries, navigate long rivers to their sources, cruise along the coasts, climb mountains and roam over plains. Questions are asked almost without number. The teacher gives the important facts, and the quick imagination of the pupils constructs a continent or a world, beautiful to themselves and wonderful to us.

Physics is the only science, aside from physiology, regularly taught in the institution, as the sciences can not be profitably taught those without sight. Sufficient attention is given to geology to give the pupils an idea of the earth's structure; botany is taught just far enough to give the pupils an idea of plant life and growth; and sufficient of zoology is taught to acquaint the pupils with the general distribution of animal life and with the larger divisions of the animal kingdom. No effort is made in teaching the sciences named to emphasize their disciplinary powers, but they are simply taught for the information gained. Physics is given a more prominent place because it can be more successfully taught, and because the knowledge gained from its study can be turned to a practical account in the industrial departments.

No speculative studies are in the course, because, though very interesting to them, they are unhealthy for blind pupils. At best our pupils live in an unreal world. They are not able to understand all the real relations of people and things. The child wonders at every unusual sound or sensation, and his imagination is quickened in

its flight. Imagination is already very strong, and the knowledge of the physical world very limited. And the child shut in from the world and having but little exercise, naturally falls into a speculative and unhealthy condition of mind. To add such studies as mental science and moral philosophy would be to increase the already abnormal conditions, and render more difficult the child's ability to understand real relations.

Culture and discipline are the chief ends in view in the education of the blind. With

a memory strong from necessity, it is easy for a blind child to become the possessor of a great mass of facts and render himself a mere machine. It is difficult for the *best* teacher to prevent such a condition. Careful and skillful effort is necessary to so control the acquisition of knowledge as to bring to the child growth as well as information. Paramount to this is the tone of the information acquired, hence the culture side of all studies is earnestly emphasized.

INDIANAPOLIS, IND.

STEPS IN OUR NATIONAL DEVELOPMENT.

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COMPARATIVE COLONIZATION.

[In Two Parts—Part II.]

4. Spain was among the first provinces to receive the Roman civilization, and no other country was more completely Romanized. This early transformation was accomplished by means of colonies, by the system of provincial administration and by voluntary immigration. In the period immediately following the conquest of Scipio from the year 196 to 169 B. C., more than 140,000 Italians crossed into the province of Spain. This aided greatly in the infusion of the language, customs and institutions of the Romans. Along the Mediterranean coast, the indigenous population and that of the Phœnicians was made to conform, under the republic, to the customs of the ruling people. Under imperial reign, by means of colonization and the extension of the Roman municipal system throughout the peninsula, Spain was completely Romanized. Under the rule of Augustus there were in all Spain fifty communities with full citizenship; nearly fifty others up to this time had received Latin rights and were, in their internal organization equal to Burgess communities. Some of the earlier towns had adopted Roman civilization long before. On the occasion of the imperial census instituted in 74 A. D., the Emperor Vespasian introduced the Latin municipal organization into the remaining towns of Spain. Once Romanized, the Spanish people naturally conservative, retained their adopted language, customs and system of administration; and these

the conquests of Teuton and Saracen did not eradicate. In respect to colonization we find traces of the Roman method as late as the eighteenth century. There was one element in Spanish colonization which did not enter into the early Roman plan, that of the Christian religion; and so strong was this element that it characterized all of the undertakings of the Spaniards after the union of Ferdinand and Isabella. The mission and the civic organization hereafter went hand in hand. Not only did the Spanish send out military colonies to guard the territory, but they established missions for the conversion of the natives. They also established civic colonies for the purpose of peopling the land, and to this end held out inducements to settlers. At first a legal fiction was assumed, that the soil by justice and right belonged to the natives, but on a religious basis they were deprived of this right, which was vested, without the consent of the supposed owners, in the crown of Spain. But the point of chief importance to us is that in whatever form the colonization took place, the colonists were occupying a part of the royal domain and were controlled by the royal government. All colonial powers and politics originated with the king, and from the sovereign flowed all grants of land, because he was sole proprietor of the soil. The colonists had no rights arising from the situation, there was no political power developed out of popular government; it came from the king. The result of this policy was inevitable. Without thought of religious or civic liberty, hampered on every side

by the laws of trade and by oppressive taxation, the colonists were but puppets in the show of government. Even the assistance which the home-government gave the colonists in the beginning, was of such a nature as to stifle every attempt at self-government or independent development.

As a result of colonization the Spaniards resembled the Romans in several phases, one of which was the mingling of the blood of the conqueror with that of the conquered, thus producing a new, and in the case of the Spaniards, far inferior race of people. The Spaniards like the Romans had a complex system of provincial government and departments, all of which were officered by appointments from the home-government. A rigid system of espionage was adopted, so that it was part of the business of each officer and official to spy his fellow and report any irregularity to the home-government. Federation of towns and independent life was absolutely impossible under such a system as this.

I have stated that it was the policy of Rome to tolerate existing institutions. Spain, on the contrary, demanded a complete destruction of all not in harmony with her own. In both the character of the colonists was not the best; and while other colonies had their adventurers, criminals and gold seekers, the Spanish colonies had more than a fair proportion of these classes.

The idea of commercial monopoly lies at the foundation of all modern national colonization schemes, but Spain, more than any other country attempted to enforce monopoly by direct governmental control of all trade and commerce. To keep these firmly in hand, the government prohibited the cultivation, in the colonies of any commodity that was produced in Spain. In this way colonists were forbidden to raise saffron, tobacco, hemp, olives and grapes; while supplies of these articles could not be purchased outside of the mother-land. The Council of the Indies, a kind of Star Chamber, was created with full control of all affairs in the provinces, whether ecclesiastical, military, civil or commercial. This Council was resident in Spain. There was also a special tribunal created called the *Casa de Contratacion* whose sole duty was to regulate all intercourse of Spain with the colonies in America. With these two instruments of power in the home-government and a vice-royalty and the inquisition in the New World, there was ample opportunity for the exercise of arbitrary power, and indeed everything and everybody were kept in close subjection to the ruling power of Spain. At first there was only one port of entrance for colonial vessels, Seville; afterwards Cadiz was added to the list. Here all colonial exports were unloaded on pain of

confiscation, and a big monopoly fixed the prices and maintained an absolute commercial despotism; a like monopoly, by purchase, controlled all of the imports into the colonies. The vessels that did the carrying-trade were all owned and sailed by Spaniards.

No rights of self-government whatsoever were allowed to the colonists. Permission from the home-office had to be obtained to make a new road, to build a new house, or to engage in a new enterprise. There could be no gathering of the people for any purpose unless summoned by some official or by permission of the governor and a body so convened, had no independent political action.

5. The condition of France at the time when her colonies were planted, would put out of sight any thought of political or religious freedom. The most absolute absolutism was the only thing known. The States General was long since dead. The ordinary man had nothing more to do with government, either local or general, than the ox he drove, while he was not allowed to think on religious matters outside of the beaten track of the church. Instead of gaining in liberty by removing across the sea, it was thought he needed even greater espionage. If he built a house for his chickens or planted a vine or tree, or sold a cow or sheep, the commandant or governor gave permission or fixed the price. Every policeman or sentry who marched up and down in front of the old stone church at Quebec or kept order in the thoroughfare of Montreal, was appointed by the governor, who was appointed by the King. As in Spain, so in France, two ports were established as ports of entry for colonial goods and at no other place could they be landed. Vessels carrying colonial goods must be owned and sailed by Frenchmen, and could not legally carry any colonial products to a foreign port. Every French colonist was subject to unlimited military service and could be called on at any time by the governor of the province. All officers were appointed by the home-government, so that all bickering and jealousy over promotion were eliminated and certain unreasoning obedience obtained which largely accounts for the fact that 300,000 Frenchmen were able to hold in check for so long nearly 4,000,000 English colonists.

6. Dutch colonies were more nearly akin to the Phœnician than to other modern colonies. Their object was almost wholly commercial, and during the period of Dutch naval supremacy, their colonies dotted South Africa and the East Indies as well as New York Bay and the Hudson River. They had little of self-government, as the Dutch trading companies controlled them in everything

and had an absolute despotism in matters of trade. The Dutch soon lost their supremacy and became a second-rate power; their trade being largely swept from the sea by England. It is hard, therefore, to form a judgment as to the place occupied by them among colonizing nations. They were surely superior to either France or Spain and were as surely inferior to England.

7. The Swedes established a few colonies during the glorious reign of Gustavus Adolphus and showed excellent capacity in colonization. It was not ability but opportunity, which was lacking. The colonies established in America had almost complete local autonomy, while a spirit of liberal toleration and fostering care was shown them by the home-government. Fate seems to have decreed that Sweden should add her strength to the colonies of others than to increase her own power thereby.

8. England, I need scarcely say has been far the most successful colonist among modern nations, if not in the world. When looked at from a comparative stand-point, we can not help but be struck by the exceeding liberality of her policy toward her colonies. The most complete and untrammelled local self-government has been allowed from the first. This, of course, is but a natural continuation of the local government at home, but is none the less worthy of comment, and none the less wise because in the line of natural evolution. Much witless criticism, flavored by the revolutionary spirit, has been passed upon the Navigation Acts, but investigation will show that judged by antiquity or in comparison with those of any other nation of the time, they were exceedingly liberal. A careful study of colonial history will show very little interference with the economic interests of the colonies and that rather from lack of knowledge of economic laws than a desire to oppress.

This article presumes a knowledge of the colonial charters and the trend of colonial administration and only hopes to emphasize some of the less familiar facts connected with the transfer of European civilization to the New World.

GREENCASTLE, IND.

Daddy Neptune, one day, to Freedom did say,

"If ever I lived upon dry land,

The spot I should hit on would be little Britain!"

Says Freedom, "Why, that's my own island!"

O, it's a snug little island!

A right little, tight little island!

Search the whole globe round, none can be found
So happy as this little island.

T. DUBBS.—*The Tight Little Island.*

RETRIBUTION IN OTHELLO.

The fact of retribution is so self-evident as to require no argument or illustration. There is somewhere a pretty little poem that says, "The song is to the singer." So it might say, if it does not, the sin is to the sinner. This is retribution.

Nemesis is the Greek goddess presiding over the normal and proper order of things, and visiting with retribution every departure from this natural order. At Rome there is a statue representing her with the measuring-rod, symbolical of her justice; and with a bridle, suggestive of self-control. She carries in her hand a sword, to let all men know that her office is to punish. She not only sits in a chariot drawn by griffins, but is provided with wings—a forcible and fearful proclamation of her swiftness in administering retributive justice.

Retribution is a well-established physical fact. The rattlesnake bites itself and dies. It is better established as a psychological fact. Every one realizes the connection running through his mental states and binding them together. This connection is possible only by our states becoming a part of us. Our experiences become permanent parts of our being. Man is largely the product of his past. But the supremacy and the universality of this law are best seen in the ethical world. Every evil deed mortgages away a part of self. Every-day experiences, the greatest of literature, and the Word of Inspiration, all declare to us that to abuse to-day, means to lose to-morrow. Indeed our conception of Satan himself is but the embodiment of our belief in retributive justice. We think of Satan as the greatest of sinners,—as sin incarnate,—and yet we represent him to ourselves as the punisher of sinners.

We must distinguish two kinds of retribution. We can not look upon every ill fortune that comes to us in life as punishment for morally wrong conduct. While man lives under ethical laws, unable to escape from them, he is at the same time governed by another set of laws, natural or physical. These are often violated with good intentions, but the evil consequences are none the less certain. For convenience, then, we may let the term *natural retribution* include all those evil consequences of the violation of non-moral or natural laws, and *ethical retribution* will mean the punishment of the violation of ethical laws. Both kinds of retribution are illustrated in the play of Othello. Still another distinction must be made. A study of men in society, in history, and in literature, convinces us that not all retribution comes to us in this life. To the one who believes in the reign of order throughout the universe there is perhaps no better proof of a future life than the fact that if this



life were all, there would be, in almost every case, a disproportion between conduct on the one hand and reward and punishment on the other.

My theme requires that I shall show of each tragic character what violations of natural law made it impossible for him to live, and what violations of ethical law made him unfit to live. In other words, I must show how each is the architect of his own ill fortune; show that the fate that falls to the various characters is not accidental or external, but necessary because involved in the characters themselves.

Roderigo opens the play so we may begin with him. His punishment is both natural and ethical. His offense is chiefly stupidity. He is the tool of Iago. He thinks that Desdemona's love can be bought with money and jewelry. So he gives these freely and gets what he deserves—nothing, complete indifference. Indeed it is doubtful if Desdemona ever knew of his foolish infatuation. Sure it is, that in the play not one word passes between them. But his retribution is partly ethical. He harbored a purpose that if realized would have destroyed a family, and, if made universal would have destroyed all families. He is himself, therefore, a conflict, and his own destruction is the easiest way, the only way, to harmonize this conflict.

Brabantio, was at least, a partial stranger to his family, and as is always the case, his family became estranged from him. He did not thoroughly know his daughter, and certainly did not appreciate her. In one sense he resembled Othello, "whose hand like the base Indian threw a pearl away richer than all his tribe." Brabantio had evidently learned to distrust his daughter and feared that some harm would come to her. This fear and distrust had become a part of him; so much so, that when told of her elopement with the Moor he did not doubt it, but exclaimed:

"Call up all my people!—
This accident is not unlike my dream;
Belief of it oppresses me already."

Brabantio neglected his daughter and then died of grief that he had lost her.

Cassio was a thoroughly good-natured, genial fellow. His love for his friends was so strong that it made him an enemy to himself. His will was weak. He had not the courage to refuse to put into his mouth that which he knew would steal away his brains. This was the immediate cause of his fall, and certainly the blame is his own. Cassio was ever faithful to the Moor, and everything in the play goes to show that his friendship with Desdemona was the purest, and his feelings for her in every way the most chaste. A careful reading of the play reveals that he and Desdemona were old

acquaintances, and that it was from his intercession, largely, that Othello's love affair was a success. In recognition of this, Othello made Cassio his lieutenant, regardless of personal petitions from "three great ones of the city" in favor of Iago, a brave and experienced soldier. This aroused Iago's jealousy and was thus the beginning of the end. Iago, through his infernal but consummate art, knew perfectly how to make the very excellencies of Cassio bring about his ill-favor with Othello. Cassio's courtesy, though altogether natural and in accord with his breeding, was so elaborate that Iago easily misconstrued it into an "obscure prologue to the history of lust and foul thoughts." So far as Cassio's retribution can be traced to these causes it is natural, and it may reasonably be questioned, whether or not Cassio violated what he regarded as a moral law. I am inclined to think that he did not, but the fact that Shakespeare makes Bianca an instrument in the downfall of Cassio is proof to me that the poet looked beyond the ethics of his time, and put forth the declaration, that personal impurity is always unsafe.

Bianca and Emilia I shall pass without discussion, presenting the single speech by Emilia in her own behalf:

"But I do think it is their husbands' faults,
If wives do fall"

Now, what shall we say of Iago! With reference to all the characters we have given their fate, and are required to show the transgression that justifies it. With Iago, the problem is reversed. We have his evil deeds and are called upon to find what punishment would be appropriate for them. A proper characterization of Iago would be a study in adjectives deserving of a master-hand. This treatment I must not attempt to make. Certain it is, that nowhere in the play does Iago show himself to be in possession of a single characteristic that calls forth our respect and sympathy. He loves nobody, but is thoroughly selfish. He laughs at chastity, and has no regard for any rights that stand between him and the attainment of his selfish ends. He is a hypocrite of the basest and vilest sort. He will even acknowledge that he is a hypocrite when he thinks the acknowledgment will better enable him to practice his hypocrisy. He can scarcely speak of women without speaking ill of them, and always praises the worst best. He takes Desdemona, whom he knows to be pure and innocent and makes her appear to her husband as a vile wretch. To further his own inhuman plans, he makes Othello, who loves her better than his own life, hate her and say of her:

"Ay, let her rot, and perish, and be damned to-night."

What is his retribution? The play does not

tell us. I must follow Shakespeare in shifting to Cassio the responsibility of determining what punishment, if any, could be commensurate with his deeds. The play closes with these lines :

"To you, lord governor,
Remains the censure of this hellish villain;
The time, the place, the torture:"

Othello and Desdemona belong together, both in their transgressions and in their suffering. Love binds them so firmly together, that Othello with murder in his heart and believing his wife to be a liar, declares that he loves her, and that the world hath not a sweeter creature. Desdemona says that he can not mistreat her so much that she will cease to love him; and in her last breath she whispers a falsehood to shield Othello from his awful crime. But, in this love, there is an inconsistency that must destroy both its objects. Love implies trust supreme. This Othello does not have. Trust implies complete understanding. This complete understanding between Desdemona and Othello could not have been possible. He was a man, as he himself says, declining in the vale of years; she a young girl that had been reared in the midst of Venetian society. Since he was seven years old he had thought only of war. She knew nothing but peace.

If, now, I am to name the one thing that destroyed the domestic happiness of Othello and Desdemona, I must say that it is Othello's failure to understand his wife, to know her completely. Misunderstanding is always fatal to domestic peace. Now, what are the elements that constitute this misunderstanding? First, Othello had a very strong faculty for believing the incredible. His imagination when once aroused was so powerful that it imposed upon his reason. He could not help believing that in his travels he had seen what he had merely read about or heard described. He believed he had seen not only "antres vast and deserts idle," "and hills whose heads touch heaven," but also "cannibals that each other eat;" and "men whose heads do grow beneath their shoulders." This natural capacity for believing the incredible makes it possible for Othello to suspect Desdemona. His passion of jealousy springs directly from this. His excitable nature furnishes a fit home for jealousy, and the perfect dissimulation of Iago fosters and develops it. It is greatly assisted also by the natural disposition of Cassio to be extremely courteous, and the complete unconsciousness of guilt on the part of Desdemona.

The inability of Othello to understand Desdemona is greatly favored also by their belonging to different races. The very fact that race outlines are so definitely drawn by nature is at least

suggestive to us that they should not be crossed. The intermarrying of races, whether morally wrong or not, is open to this serious objection. Human sympathy and understanding do not easily cross lines so definitely marked out as those separating races. It is impossible for one person to know another, in any reasonable length of time, if they have been reared under different manners and customs,—if their occupation, their education, and their natural and social surroundings have been so different as they must necessarily be when the two are representatives of different races. Furthermore, whether right or wrong, a mutual prejudice is almost sure to exist; and even when this prejudice is completely destroyed, as it was in the case of Othello and Desdemona, still there is danger that each may suspect it to exist on the part of the other. Thoroughly conscious of the prejudice with which the world looked upon him, it was easier for Othello to believe that Desdemona, too, must share this prejudice. Being easily persuaded that Desdemona had reason for not retaining her confidence in him, he the more easily lost confidence in her.

This understanding which terminated so fatally to both Othello and Desdemona, is in part at least, traceable to the curse-burdened commencement of their marriage. In this, as I now see the matter, lies the sole guilt of Desdemona. The play says nothing of any mention that Desdemona ever made to her father in regard to her intended marriage with Othello. We are to understand then, that, without his consent and without his knowledge, she left her father's family. There is no natural way of severing one's connection with the family into which he was born. He may become a part of another family, indeed he must, or violate an evident order, but it should always be by the consent of the family into which he was born, particularly those members of it to whom he owes his life and education. Nature stamps her disapproval upon any other means of severing family ties, or institutional ties of whatever kind. Any institution receives with caution one, who has by violence or any unnatural means, torn himself from another institution. Just as a political party feels less secure if its success depends upon the votes of those who have come to it from an opposing party, so Desdemona's elopement contrary to her father's wishes and even without his knowledge, makes it easier for Othello to be influenced by the words:

"Look to her, Moor, if thou hast eyes to see;
She has deceiv'd her father, and may thee."

A superficial reading of the play makes it appear that all the other characters are the innocent victims of Iago's villainy. But a deeper insight into

it reveals that each is in some sense the author of his own fate. Roderigo's death was simply the return to himself of the deed he was trying to commit. Brabantio did not appreciate his daughter, and she was taken away from him. Cassio held the position of a soldier and was intrusted with the duty of preserving order. Through his weakness he destroyed the order he was set to preserve, and was justly given a position more in keeping with his conduct. True, he was only courteous to Desdemona, but he should have known that

"Trifles light as air
Are to the jealous confirmation strong
As proofs of Holy Writ."

It was words from Iago's own pen speaking out from the depth of a dead man's pocket, that helped to reveal this infamous scheme and give truth to his own artful words:

"Nay, guiltiness will speak.
Though tongues were out of use."

Othello was honorable. He loved well enough, but not wisely. He was the victim of his own indiscretion. The same must be said of Desdemona. She was indiscreet in assuring Cassio that Othello should never rest till he gave Cassio back his position. Conscious of her own innocence or rather unconscious of any guilt, she was indiscreet also in pressing Cassio's case upon her husband. Retribution must follow indiscretion as surely as it does immorality. Iago is but the instrument with which Othello, Cassio and Roderigo achieve their own destruction. His guilt is none the less real, for he willfully seeks the injury of others. They are none the less responsible, for without their faults, or at least their imperfections, Iago could never have caused their downfall. As much may be said of Desdemona. Iago keeps the loom in order; Desdemona's own hand throws the shuttle that weaves the tangled web of her own destiny. There is much truth in her dying falsehood when she whispers, "Nobody, I myself."

In the play of Othello the poet shakes the finger of warning over the heads of all who think that they may violate with impunity any law, either of discretion or of morality. The whole play proclaims that the deed returns to the doer. Here, Shakespeare expresses in action the words of King Lear:

"O sir, to willful men
The injuries that they themselves procure
Must be their school-masters."

"The gods are just, and of our pleasant vices
Make instruments to plague us."

JONATHAN RIGDON.

DANVILLE, IND.

SCHOOL STUDIES AS TO CONTENT AND FORM.

When the Superintendents' Association received the report of its committee last October and took up the discussion of the "Course of Study for Town and City Schools," the discussion turned in a considerable degree as to the division of the school studies into two classes; viz., studies of acquisition and expression, or those of content and form. It is the purpose of the present article to explain some parts of the report, and to show the purpose of the committee in making such a division, and at the same time to express the relative value which each has in a school curriculum.

The committee has laid down the broad aim in education to be "The unfoldment of the life process of the child in harmony with nature," and to accomplish this aim has emphasized as the determining features of the course those subjects which have the largest amount of thought content. These subjects are to determine largely the work of expression in the school. The committee has very carefully refrained from taking the position that some of the Herbartians take in assuming that all of the formal work of the school shall look to the content studies for its development. The committee are one in recognizing that the technique of these formal studies should have its proper time in the schedule, that it should have its proper emphasis placed on its essential details, that it should constitute a subject for instruction and not be left to the chances of incidental teaching. At the same time the committee are one in believing that much of the time devoted to formal instruction is wasted because of a lack of unity existing between it and the content studies of the course. That is to say, if the formal studies were taught faithfully in the light of the content studies, using what is of use in them to brighten the work of the formal studies, the results would be far better than at the present time.

We are not to look upon content study and formal study as separate things. They are reciprocal. The formal is but the expression of the content, and the content is but the substance of the formal. One is the material, the other is the spiritual. Both are essential to excellent instruction. The purpose of the report is to emphasize this relation, and secure for each its just consideration in the development of the aim as laid down as one of the determinative propositions.

The committee has separated the content studies into two parts—the culture studies, which include literature and history in their several phases, and nature study and geography. The formal studies

include grammar, arithmetic, reading, spelling, writing and drawing.

It is not the purpose of the report to make any one of these content studies the center for correlation, nor to assume that there is a center around which the whole course may swing. It has aimed at offering a line of thought on the content side and a parallel line of formal study that might be beneficial in uniting these two, heretofore so separated, lines of study.

It is unnecessary to enter into a prolonged discussion of the importance of these several lines of study. History is beyond any doubt a content study, yet it has long been taught from a formal side. A few dates to mark the time, a few battles fought, has been for years the extent of the work offered. Such "historic information," in the language of Spencer, "is almost valueless for the purpose of guidance" toward the end at which education should aim. The idea of a nation being a collective man, with ideas of justice, virtue, and religion, has been but recently wrought into our instruction. It is for this higher idea of history, with its breadth of culture and its deeper moral phase that the report asks consideration.

Nature study constitutes one of the chief lines of thoughtful study in the course. The content of nature is obtained only by leading the child into communion with nature by experimentation. Taught as it once was and as it much is, by the formal literary method, it is useless to the child; but when it is approached by the knowledge that this is the order of every child, it stimulates him to reveal the positive laws of nature and makes him a searcher after truth. While the method of procedure in science-teaching may not be that logical sequence which the botanist, or the physicist would imply in writing a book, we must bear in mind that, as fitting Dr. Harris, "The pedagogical order is not always the logical or scientific order, but in this respect agrees with the order of discovery."

The report also emphasizes the subject of literature from the content side believing that the "general tendency of our elementary schools is to neglect the content in favor of the literary formalities which are the mechanical material rather than the spiritual part." There has been a tendency in the past to study these forms of literature from the formal, grammar side, believing that the content of language was largely augmented by the form. It is we do not doubt, but we question whether these mere sentiments of spirituality are brought to the content of thought which is held to be the spiritual part of the thought content. The report emphasizes that a study of these beautiful expressions of spiritual nature is not an ex-

pression—those forms that have had the test of centuries—and those forms that arouse the highest ethical feelings in the child should be presented to the child in every grade of school, in close connection with the subjects of science or history under consideration, that the environment of the child may be higher and more ennobling.

The thought of the report is, after all, not primarily that of associating these several forms with content, but that of emphasizing the content in subjects that have been largely taught from the formal side. Many will claim grammar to be a content subject and that it should be placed with this list. That the subject contains content none will deny, but its content is not that of forms of nouns, and verbs, and modifiers. Its content consists of the higher laws which govern the science of language, the history of language and the forms of literary elements which the pupils of the common school can not know without an unnecessary strain. And further, the knowing of which, does not aid him in his "unfoldment of the life processes." The forms of grammar have, therefore, been placed in the formal list because they have largely to do with the forms of expression and not with the content of expression, since these forms of expression constitute the material for technique language work in all the grades.

Geography claims its place in the content studies, since from the first, it has to do with the subject of nature and human interests as the pupil sees them in his environment, until he finally passes to that stage where he sees the forces of nature united with those of man in shaping the great factors that have been the modifiers of historic development. Geography has for years been a subject formally treated. To know the forms was sufficient. The time has come when the formal side shall be content to be known only as it represents a valuable concept.

The subject of arithmetic has been placed in the list of formal studies because it has to do only with the quantitative ideas of thought. It is valuable only as it measures thought. It goes hand in hand with science, not to express thought but to measure it. It measures the time of history, without adding to the intrinsic value of its truth.

As to spelling, writing, drawing, and the mechanical labor of reading, all are purely formal. Their place is recognized in the course because they have a valuable part to perform. The content studies with in a formal setting would be useless. The report desires to recognize the need of faithful work with these formal studies. They require a large amount of drill to secure precision

of form, and proper time should be given for this drill.

The subject of correlation has had much to do with the selection of material for the course of study. But the correlation has only been a means of acquiring certain conditions in the hands of the teachers as will lift them from the plane of formal teaching which is a relic of Scholasticism into a higher realm of teaching which shall conceive of the thought and its power to act upon the mind of the individual child. We have so long been struggling with the idea that the discipline of the mind through one subject is discipline for the mind for every subject, that we have used these subjects in a narrow, intensive way that has left our pupils narrow and lacking in power to see universal truths in the light of broad experience. If we want breadth of culture, we can find it only through a broad, comprehensive course of content studies.

The course has been objected to on the ground that it will make the pupil effeminate. Truth does not weaken, it strengthens. The child who has a broad view of life from the studies of the humanities and nature has a foundation for a superstructure that shall bear no signs of effeminacy, but rather one upon which he may build a character both noble and manly.

W. C. BELMAN.

HAMMOND, IND.

SOME EDUCATIONAL AIMS.

What education is of most immediate value to us as American citizens is the question that should be answered at the present time. True, large interest attaches to the literature of each succeeding century, and each nation has profited by the experience of the past. Popular opinion judges education by its "bread-winning" powers, or by its ability to augment its possessor's money-making power. The social side takes a secondary place with a majority of the busy American people.

The business world claims that our educational system is lame in not making practical scholars. It surely has some grounds for its claims. Is there a remedy?

Perhaps the reason that practical scholars are few among common school students and high school graduates is, that the requirements too often are catechetical answers rather than an independent application of principles. The examination of both teacher and pupil seems to be a necessity; it is but a means and not an end to educational development. But were it an end or object to be attained by study, it is not to be inferred that all that may have been learned to meet the require-

ments of the examination will be forgotten forever, as soon as the examination is over.

To commit a long list of dates may be exercise for mental culture; it may, to some extent, strengthen the faculty of memory; but if each date be united with one or more of the living causes, one or more results of the struggle of mankind for justice, freedom or liberty, the skeleton of dates will be clothed in the living flesh of human action which will not only strengthen the memory but will awaken the entire mind to greater activity. Plato says: "The purpose of education is to give to the soul and to the body all the beauty and all the perfection of which they are capable."

A fact may as well be taught in examination as elsewhere. By placing current events in the examination list, though no part of any text-book, the student will become less bookish and more practical. In the study of related events he will become interested in the issues of the day and be encouraged to become a thinker of issues as well as of rules and definitions. Ideas of general culture and morality may be suggested in nearly all of the subjects studied in the common schools. It is the duty of the educator, as well as the statesman or executive to cultivate a love for country, and for his own native state. What should be dearer to the true, loyal American citizen, when in a distant port, than to see the steamer moving shoreward, floating the Stars and Stripes of his own free republic? What should be a greater duty of the statesman than to stand for the interests of his own native state? What should be a greater duty than to make practical men and women of the students, into whose hands soon will fall a nation's destinies. Commonly the student has some concern as to the result of his day's work in examination. He might, with profit, be required to write properly, punctuate and capitalize such statements as these: Kentland is the home of the Poet of the Kankakee. A United States Senator of Indiana lives in Terre Haute. Dunn's History was recently published. A soldier, statesman and novelist wrote Ben Hur. As a specimen of your penmanship write the following stanza:

"Only thinkers wear the laurels
On the mountain top of fame;
While the dreamers linger ever
At the foot, without a name,
And the shadow of the mountain
Makes oblivion darker still;
Oh, the dreamers all have wishes
But the thinkers have the will."

Not only should the boy be made acquainted with gems of literature, current history and the passing events of the day, but the girl should also join him in his efforts. If you wish a science practiced or an art executed, put it in close touch with

the active business life of humanity. The energetic boy or girl very soon joins the ranks of the business world that works for results and explodes theories more rapidly than they can be built by the "too scientific" bankrupt financier. History is a record of what has been done. With no record of the past, from what may the moral, social or financial side be shown or explained? Literature, the result of learning, of knowledge and of imagination preserved in writing, as distinguished from the sciences, comprehends the languages, poetry and history. It portrays all conditions of humanity; it shows to man what are his impulses, his tendencies and desires. It may lift him socially and spiritually above the gloom and despondency that so thickly surround his fellow-man. The same may be said of literature as of the theories applied to the sciences. Some of the old theories served well their purpose, but recent investigations have developed new ideas and exploded many of the old-time "good theories."

The student of literature should be familiar with the standard authors of his own language, but it is unnecessary to devote a lifetime to the study of the Latin poets because they are Latin, or to the English poets simply because they are English. From the teaching one would infer that all the writers of any literary merit lived either in old England or sang to the Cæsars in ages long since past.

A looker to past ages for what they have given us, but we represent the American spirit and should stand for the American idea, which is: We draw our inspirations from our opportunities; we extract lightning from the clouds, and hither, hither, and thither, our bidding. We travel by steam; we talk with electricity and strive to turn all we touch into gold.

The Hoosier state—the great educational archway of the Northwest—stands well to the front in all that progress means. From her residents have sprung geniuses of literature, read and honored by all civilized nations. To her sons have been entrusted the ship of state in times of danger and national adversity. When weighed in the balance of public opinion, they were found true for measure and weighty as wing. Should not the youth be made acquainted with these facts? Should he not be taught that he has responsibilities as well as opportunities? There are a number of ways he should know of. His state, as did the Spartan for his sons, should teach the future citizen that possess the attributes essential to make the state honored at home and respected abroad. He should be taught that the state is his best friend, and that in all his actions he should be guided by the earnestness of duty, and that he should be guided by its welfare, and

education that is heralded by our statesmen; one that kindles patriotism by the memory of her ambitious living, and her heroic dead; and one that is not satisfied with the narrow limits of individual success but goes forth to the state and nation to render general service for the greatest good to the largest number.

Theoretical instruction may have some benefits, but theory that cannot be applied is useless. Railroads are not built by theory; there is an actual application of something else. Cities are not controlled by theory. The actual necessity of a charter was the germ; the control is but the exercise of authority legalized by charter. If you desire the best results in scholarship, make the requirements that will produce the results. If a practically educated people is desired, place within the process of education that which will not only make the thinker, but the thinker of that which can be applied when the farm or factory is to be managed, the railroad to be built, the city or the state to be controlled.

J. F. SNOW,

Superintendent of Adams County.

DECATUR, IND.

THE BEAUTIFUL AS AN EDUCATIONAL FACTOR.

Everyone who has at heart the furtherance and betterment of education should most earnestly aid in placing in the curriculum of study, all the arts which make up the domain aesthetic.

In speaking of the beautiful, I do not limit the horizon to either poetry, art, or music; for to some, I am well aware, in the language of George Eliot, "Music" or the other arts as well "sometimes sweeps by as a messenger carrying a message that is not for them." But in the mind of every child, there exists an embryonic impulse which finds freedom only in the upward art-ward direction; and because of the differences of tendencies, even in embryo of these art impulses, exists the reason for placing before children all the different phases of the beautiful so that in one of these phases they may find their own likeness.

We cannot give them what to choose. We can only discover, or "take the cover off" of what is already existing in their own minds, and enable them to fulfill the maxim, "Know Thyself." The Hindu Psychist says, "The Infinite Library of the Universe is in the mind of every child;" and the teacher and the whole external world is the suggestion—the occasion, which enables him to discover this "Infinite Library." It is like fire in a piece of flint; knowledge is existing in the mind; the suggestion is the friction that brings out the

fire." Many a good flint is useless, because no friction is applied.

We have recognized that poetry excites images by addressing itself to the imagination and memory, and therefore aids in psychic action, and it occupies its legitimate place. But the remaining two-thirds of this circle of beauty, have been put aside as non-essential.

Mr. Butterworth, well-known as the editor of the "*Youth's Companion*," quoted recently and with much emphasis to a body of educators—"Learn, not how to get a living, but *how to live*." When this idea becomes the prevalent one, and the fact that fifty cents per day will keep your physical self in good condition, while the entire material universe is not sufficient nurture for the mental body—it will then be recognized that those studies which teach "how to live" will be as essential as are those which teach us "how to get a living." Poetry, art, and music are all recognized as avenues leading to larger realms,—as the "Jacob's Ladder" by which a higher intellectual atmosphere is reached: but because of its more immediate connection with sensation, music, may be rightfully regarded as the more universal, the more powerful of the three.

In poetry, painting, or sculpture, intervening act or acts, are necessary before the elements are appreciated by sensation, while in music, the *sensations of tone are the material of the art*. Because of this union, music deals more intimately with the emotions, than any other educational factor, and thus becomes an ethical force. Not only so, but the psychic processes which a well-directed lesson in music causes, exceed in number and power those caused by almost any two recitations of any other branches; and, added to this, the study itself lifts these processes out of the "pedagogical rut," and wraps around them its own incomparable beauty.

Are not those who hold the affairs educational in their grasp—who hesitate to place these phases of education before the child, depriving him of a heritage that is priceless? And is not this legitimate part of every training eyed askance, mainly because of the burden of opposition which the unknowing, unthinking public would cause the leaders of such a movement to bear?

There is an ancient legend which would just here be apropos. It runs like this:—"When birds were first formed they were created without wings. They lived this way for a long time, gathering their food and journeying in a slow troublesome way. Finally, as if this mode of life were not hard enough, God placed a little burden across their backs, and said, 'I wish you to carry this for me.' This they did also for a long time

cheerfully and uncomplainingly, and because of the spirit with which the burden was borne—it was given to them forever, but changed—into wings."

If this burden (if it seems so) of placing before children suggestions of their better, higher nature be borne in the spirit of justice to the minds to be educated, it will be changed into wings for all.

LELLA PARR.

FRANKLIN, IND.

SHE CONSIDERED THE LILY.

At a Teachers' Convention in Detroit, lately, a lady speaking about the influence of beautiful objects upon the character and conduct of young pupils, told a pretty story received by her from an eye-witness, and thus reported by the *News Tribune*. The occurrence took place in New York.

"Into a school made up chiefly of children from the slums the teacher one day carried a beautiful calla lily. Of course the children gathered about the pure, waxy blossom in great delight.

"One of them was a little girl, a waif of the streets, who had no care bestowed upon her, as was evinced by the dirty, ragged condition she was always in. Not only was her clothing dreadfully soiled, but her face and hands seemed totally unacquainted with soap and water.

"As this little one drew near the lovely flower, she suddenly turned and ran away down the stairs and out of the building. In a few minutes she returned with her hands washed perfectly clean, and pushed her way up to the flower, where she stood and admired it with intense satisfaction.

"It would seem," continued Miss Coffin, "that when the child saw the lily in its white purity, she suddenly realized that she was not fit to come into its atmosphere, and the little thing fled away to make herself suitable for such companionship. Did not this have an elevating, refining effect on the child? Let us gather all the beauty we can into the school-room."—*The Youth's Companion*.

No. Freedom has a thousand charms to show,
That slaves, howe'er contented, never know.

* * * * *

Religion, virtue, truth, whate'er we call
A blessing—Freedom is the pledge of all.

COWPER—*Table Talk*.

For murder, though it have no tongue, will speak
With most miraculous organ.

SHAKESPEARE.—*Hamlet*.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"To read a statement of a fact gives knowledge; to verify the fact gives training; to discover it gives inspiration. Training and inspiration, not the facts themselves, are the justification of science teaching."

STUDIES IN INDIANA GEOGRAPHY.—IV.

THE GLACIAL DEPOSITS OF INDIANA.

BY FRANK LEVERETT OF THE U. S. GEOLOGICAL SURVEY.

Note Concerning the Glacial Boundary. The glacial map of Indiana which is here presented, was prepared in March, 1896, and the position of the glacial boundary in Southeastern Indiana and adjacent portions of Kentucky, was based mainly upon a map prepared by Prof. G. F. Wright, for his official report (U. S. Geol. Survey, Bul. No. 58, 1890, p. 65). In the month of June, 1896, the writer examined the immediate borders of the Ohio valley from near Louisville up to Maysville, Kentucky, and found that the glaciation extended to the Ohio river throughout this distance, nearly 200 miles, except perhaps for a few miles below Maysville. In several places till was found in considerable amount south of the Ohio, not only in the bend of the Ohio opposite Cincinnati, where it had been noted by Prof. Wright and others, but also at numerous points both above and below this bend. The full extent of glaciation and the position of the glacial boundary in Northern Kentucky has not, however, been determined, nor has further study been given the boundary westward from Louisville. There seems to be a general agreement among the several geologists who have worked in Southern Indiana, that an unglaciated district extends from the Ohio river northward as far as Northern Monroe county, but the full extent of this unglaciated district has not been determined. The glacial boundary as laid down on this map should, therefore, be considered as, at best, only a rude approximation.

INTRODUCTORY.

In Indiana, the glacial deposits and scorings have been recognized from the earliest days of settlement; indeed, it is in this state that we find about the first recognition in America of the bowlders as erratics and of striae as products of ice action. So long ago as 1828, granite and other rocks of distant derivation were observed by geologists near New Harmony, in the southwestern part of the state.* At nearly as early a date (1842), striae were noted near Richmond, in the eastern part of the state.†

Notwithstanding the early date at which observations of glacial action began, very little attention was given to the drift, here or elsewhere, until within the past twenty years. It was commonly passed over in geological reports much as the soil

is even to-day, with some casual remark concerning its presence in great or small amount. Within the past twenty years interest in these deposits, because of the varied history which they reveal, has been so aroused, that many geologists, both in America and Europe are making a systematic study of them.

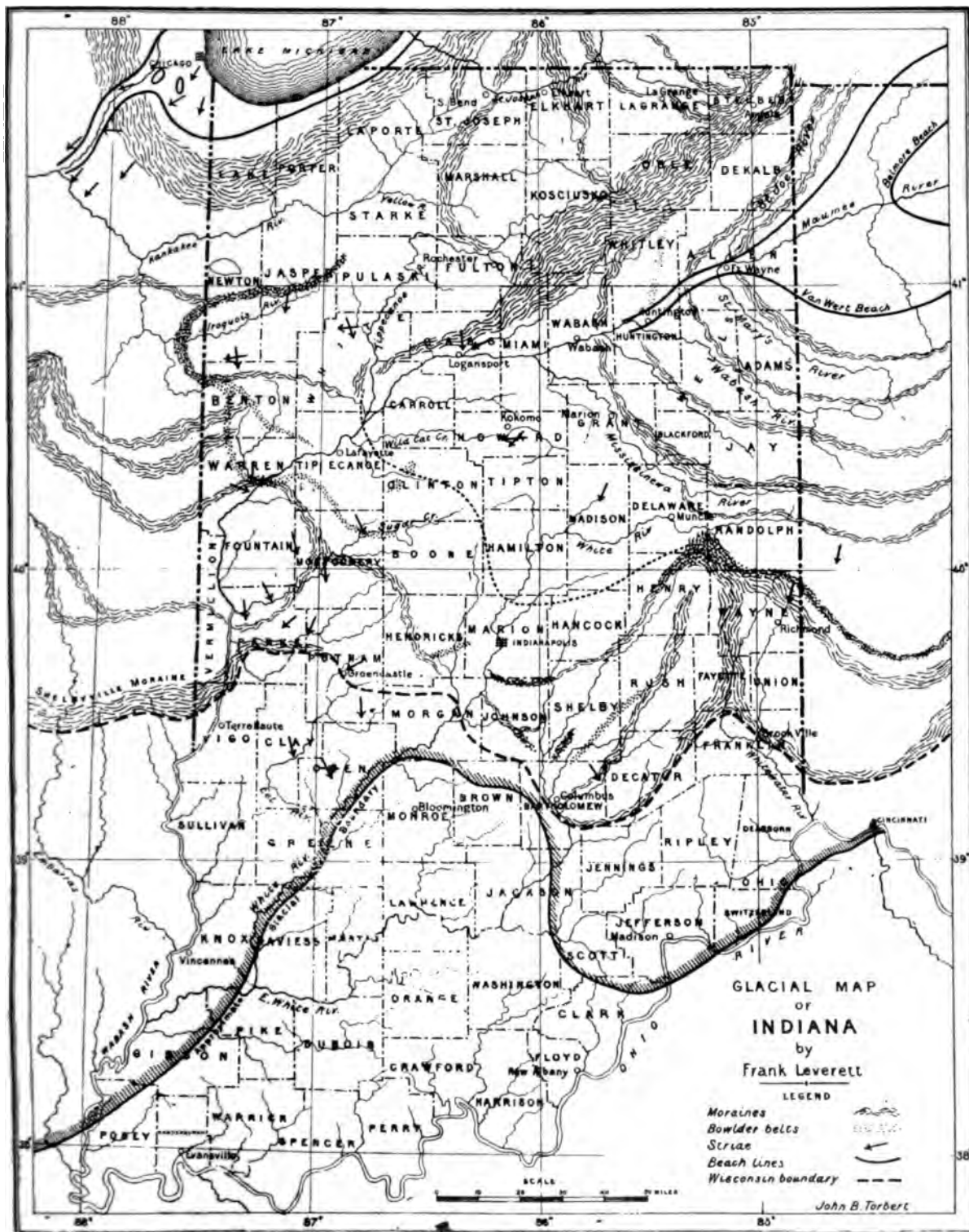
In Indiana, these deposits are engaging the attention of both the State and the United States Survey. The study of general features and a comparative study of the drift of Indiana and neighboring states has been undertaken by the United States Survey, while the detailed examination of deposits has been entered upon by the State Survey. Professor T. C. Chamberlin has superintended the United States Survey work and has himself spent considerable time in Northern and Western Indiana. Under his direction Professor G. F. Wright and Professor J. C. Branner, have investigated the glacial boundary; Professor L. C. Wooster has studied the district north of the Kankakee, and the writer has made a reconnaissance of nearly all the drift-covered part of the state. Professor Wright's results have already been published in United States Geological Survey Bulletin, No. 58, issued in 1890. Professor Chamberlin's earlier results are set forth in his paper on the Terminal Moraine, in the Third Annual Report of the United States Geological Survey for 1881-82. The later results of his studies and those of Professors Branner, Wooster and the writer, are largely unpublished. Through the courtesy of Professor Chamberlin the writer is permitted to set forth some of the leading results in this paper.

The work of the State Survey has not been uniform. Portions of it have been less detailed than that of the United States Survey, while other portions have been carried into greater detail. Probably the most detailed and careful study of any considerable area is that made by Dr. C. R. Dyer in the northeastern part of the state.* An examination of the reports of the Indiana Geological Survey will serve to set forth these differences and to show the importance of extending the detailed study of glacial deposits over all the glaciated portions of the state. Such a study probably can be carried on to the best advantage under the organization of a State Survey. But independent workers can do much to throw light on these deposits by collecting the records of well-borings and by careful notes taken at natural or artificial exposures.

Before entering upon the discussion of the Indiana drift a few words of explanation seem necessary concerning the material of the drift, and concerning the gathering grounds of the ice which

*See *Geology of Indiana*, 1878, pp. 105-106.†See *Amer. Jour. Sci.*, Vol. XLIV, 1842-3, pp. 281-313.

*See sixteenth, seventeenth and eighteenth reports of State Geologist.



overspread this region. The latter subject, however, has been so well covered by Mr. Taylor* that but little need be added.

MATERIALS OF THE DRIFT.

It is quite a prevalent idea that the bowlders which strew the surface of the glaciated districts and which have suffered a transportation from distant regions, constitute the most impressive evidence of ice action. It seems by many not to be understood that the thick deposits of stony clay with associated beds of sand and gravel which blanket the North Central States to a depth of 100, 200 feet, and occasionally 500 feet, are also due to ice transportation. Over a large part of the country from the Dakotas eastward to the Appalachian ranges, these deposits are so thick that ordinary wells fail to reach their bottom, and many of the valleys of the large streams are formed entirely in them. The bowlders in reality constitute but an insignificant portion, for probably ninety-five per cent. of the drift of these states consists of minute rock fragments and sand and clay, and of the remaining five per cent. only a small part is made up of large blocks of distant derivation; *i. e.*, of bowlders proper.

An examination of rocks in the drift mass will usually disclose a large percentage of material which has not been transported far, but there is usually to be found a sprinkling of rocks from distant localities. Let the reader select some space, say a square yard, in a gravel pit or other exposure and set about classifying the several kinds of rocks represented, and he will ascertain the relative amount of local and distant material.

In its bedding the drift displays great irregularity. In general, it consists of a confused mass of angular, semi-angular, and well-rounded stones imbedded in a matrix of sandy clay. This confused mass was named *till* by Scottish geologists, and this term has been adopted by American geologists. By some it is called bowlder clay because of its containing bowlders. With the till one can find, in many exposures, beds or pockets of sand and gravel. These beds in some cases comprise the entire section, but they are usually subordinate to the till.

In some parts of the glaciated districts the till constitutes the lower part of the drift, while the sand and gravel lie mainly near the surface. In Indiana such a relationship does not prevail over wide areas. The drift deposits of this state are unusually varied in the arrangements of till sheets, gravel beds and sand beds; what is true of one township may find no application in a neighboring one.

Farther on we shall discuss the evidence upon which is based the conclusion that there are in Indiana drift-sheets differing widely in age.

GLACIATED ROCK SURFACES.

The peculiar appearances presented by rock surfaces which have been abraded by the ice-sheet are usually of such a striking nature as to arrest the attention of untrained as well as of trained observers. These surfaces differ somewhat from place to place but still have a characteristic appearance. They present, usually, a series of parallel or but slightly divergent lines or grooves, varying in size from faint scratches as fine as a hair, to broad shallow grooves an inch or two, and occasionally several inches in width. Between the grooves the rock has usually been scoured down to a plane surface. The striae indicate, as a rule, the general course of ice-movement and with few exceptions point toward the margin presented by the ice-sheet at the time they were formed.

As the ice-sheet was subject at times to excessive wastage, if not to complete destruction, followed by readvance in which some shifting of movement occurred, we find the striae showing some interesting variations in neighboring localities. Some of the best illustrations in America are to be found in Western Indiana and these are discussed farther on.

THE GLACIAL GATHERING GROUNDS.

On the glacial map of North America are shown the extent of glaciation, and the several main centers of dispersion; viz., the Cordilleran, Keewatin, Labrador, and Greenland. The glaciated districts in North America are estimated to cover 4,000,000 square miles. It is doubtful, however, if this entire area was covered by the ice-sheet at any one time. Dr. G. M. Dawson, director of the Canadian Geological Survey, has found evidence that the Cordilleran ice-field overspread the Rocky Mountains and extended some distance to the east and then withdrew before the Keewatin ice-sheet had reached that region*.

Similarly the Keewatin ice-sheet culminated and withdrew from its southern limits in Missouri and Iowa before the Labrador ice-field had reached its extreme western limits. The writer has found that the Labrador movement extended into South-eastern Iowa at a date considerably later than the time when the Keewatin ice-sheet withdrew; there being a soil and other evidences of an interval found on the surface of the Keewatin drift and under the drift of the Labrador sheet. It should be understood, however, that the reduction in size of the Cordilleran and Keewatin sheets at the time of the culmination of the Labrador sheet, may

* INLAND EDUCATOR, Vol. II, pp. 192-195.

* Bulletin of the Geol. Soc. of America, Vol. VII, pp. 31-56, November, 1895.

have amounted to but a small percentage of the area which they had covered.

Greenland is now ice-covered while districts to the west which have been ice-covered are nearly free from glaciers. The continuation of glaciation there parallels the observations in the fields to the west and adds to the weight of these observations in indicating a progressive culmination of the ice-sheet from west to east.

Aside from the four main gathering grounds there appear to have been minor gathering grounds in the extreme east on New Brunswick and on Nova Scotia as indicated by Mr. Robert Chalmers in his paper in the Annual Report of the Canadian Survey for 1894. There were also small ice-fields on the Rocky and Sierra Nevada Mountains in the Western United States, as described many years ago by King, Whitney and others.

THE GLACIAL SUCCESSION IN INDIANA.

First Ice Invasion. This state was invaded by ice which had as its center of dispersion the elevated districts to the east and south of Hudson Bay. There was a movement from the region north of Lake Huron in a course west of south over the Lake Michigan basin, Illinois and Western Indiana. There was also a southward movement from the same region across Lakes Huron and Erie, Western Ohio and Eastern Indiana. It is not known whether these movements were independent and of different dates or whether there was simply a radiation in movement of a single ice accumulation. It should not be taken for granted that even within the state of Indiana the ice-sheet was occupying the glacial boundary completely at any one time.

The ice deposited but little drift near its extreme limits, either in Indiana or states to the west. There is not, as a rule, a well defined ridge or thick belt of drift along the glacial boundary, such as characterizes the southern limit of some of the later drift-sheets, though occasional ridging of drift is to be seen, as in Chestnut Ridge in Jackson county* and a similar ridge in Southern Morgan county. The boundary of the drift in Indiana is usually so vague and ill defined that it is only approximately known. (See note accompanying Glacial Map of Indiana.)

If we may judge of the deposit over the state from the outlying portions, south of deposits made by later invasions, the deposits of the first invasion are of much less volume than those of later invasions. They appear to include not more than 30 of the 130 feet which the writer estimates the state to carry. In the portion of the state which was glaciated but once the thickness is usually less than 25 feet, but filled valleys will probably give it an average somewhat above that amount. What is

true of the drift of the earliest invasion in Southern Indiana is true also of the same drift of Southern Illinois and Southwestern Ohio. This invasion seems, therefore, to be quite widely characterized by a lighter deposition than that of later invasions.

First Interglacial Interval. After reaching the line marked by the glacial boundary, the ice melted away and left the drift exposed to atmospheric agencies. How far to the north the land became uncovered is not known. At this time a black soil was formed, which is now concealed beneath deposits of silt, termed loess, in Southern Indiana, and beneath later deposits of till in the northern portion of the state. This soil is found at the base of the loess at various points over the southern portions of the state, but is best developed on flat tracts. It may be seen beneath the loess in the flat districts east and south of Terre Haute at a depth of from six to eight feet. The vegetable matter appears to have accumulated there just as it does on the present surface of poorly drained tracts in northern latitudes, where decay is slower than accumulation. In Western Indiana, from Parke and Vermillion counties northward, the soil is found below a later sheet of till at depths varying from twenty feet up to one hundred feet or more. Numerous references to the soil below till in this portion of the state are to be found in the Indiana Geological Reports. It has not been observed in Eastern Indiana, so far as the writer is aware, but may be present, for few valleys there reach low enough to expose it. It seems not to be so conspicuous, however, as in Western Indiana, otherwise it would have been brought to notice in well-borings.

No conclusions have been reached concerning the length of time involved in the formation of this soil. The land at that time seems to have been so low or so flat in Indiana, that drainage lines were not well developed in the drift surface, and we are thus deprived of one important means of estimating the work accomplished.

Main Loess Depositing Stage. Loess is a term applied to a fine-grained yellowish silt or loam, which overspreads the southern portion of the glacial drift in North America, and extends thence southward on the borders of the Mississippi valley to the shores of the Gulf of Mexico. The term was originally applied to deposits of this character on the Rhine, which have very extensive development in the German lowlands and bordering districts in Northern Europe. Microscopical analysis shows it to consist principally of quartz grains, but it usually has a variety of other minerals such as occur in the glacial drift. It is apparently derived from the drift, either by the action of water or wind. In many places, especially on the borders of the large valleys, the loess is charged with cal-

*Geology of Indiana, 1874, pp. 56-57.

careous matter which partially cements it. When excavations are made in it the banks will stand for years, and will retain inscriptions nearly as well as the more consolidated rock formations. It has a strong tendency to vertical cleavage, and usually presents nearly perpendicular banks on the borders of streams which erode it. It often contains concretions or irregular nodules of lime and of iron and manganese oxides. It is also often highly fossiliferous. The fossils are usually land and fresh-water mollusks, but occasionally, insects and bones of mammals are found.

The deposit appears to be mainly of one stage in the glacial period, and has been definitely correlated by Mr. W. J. McGee with an ice invasion which followed the interglacial stage just discussed.⁷ In the region which Mr. McGee studied, in Northeastern Iowa, it connects on the north with a sheet of till called by him the upper till, and afterwards named by Professor Chamberlin, the Iowan Drift-Sheet. The writer has visited that region and fully concurs with Mr. McGee's opinion. This drift-sheet has not been recognized in Indiana, for it present it lies entirely within the limits of a later invasion and the later deposits have concealed it.

There is, in Western Indiana along the Wabash, a loess of more recent date than the main deposit, but it is confined to low altitudes, seldom appearing more than one hundred feet above the river level. In Western Illinois, a loess has been found which is older than the main deposits, but it has been seen in only a few places and is apparently a thin and perhaps patchy deposit. It is thought by Professor Salisbury that the loess of the lower Mississippi was deposited at two distinct stages. Loess is, therefore, a deposit which, like sand or gravel, may be laid down whenever conditions are favorable, but the great bulk of it having been deposited at a definite stage of the glacial period, it seems proper to refer to that stage as the Loess stage.

In Southern Indiana, and in bordering portions of Southern Ohio and Southern Illinois, there is a continuous sheet of pale silt locally termed "white clay," which is thought to be a phase of the loess, though more clayey and less uniform in texture than typical loess. It covers the interfluvial tracts as far north as the limits of a later sheet of drift, and has been discovered at a few places beneath that later drift. It probably extended much farther north than its present exposed limits, for the ice-sheet appears to have receded far to the North at the main loess-depositing stage, thus leaving the surface free to receive these deposits. The northern limit of the exposed portion in Indiana is

marked by the "Wisconsin boundary," shown on the Glacial Map of Indiana. This deposit is usually but a few feet in thickness, seldom exceeding eight feet. Along the Wabash, however, where it becomes a typical loess it often reaches a thickness of twenty to twenty-five feet. It may be readily distinguished from the underlying till both by texture and color. It contains only very minute rock fragments, while the till is thickly set with stones of all sizes. In color it is paler yellow than the till. There is usually, also, a weathered zone at the top of the till and sometimes a black soil, making still more clear the line of contact.

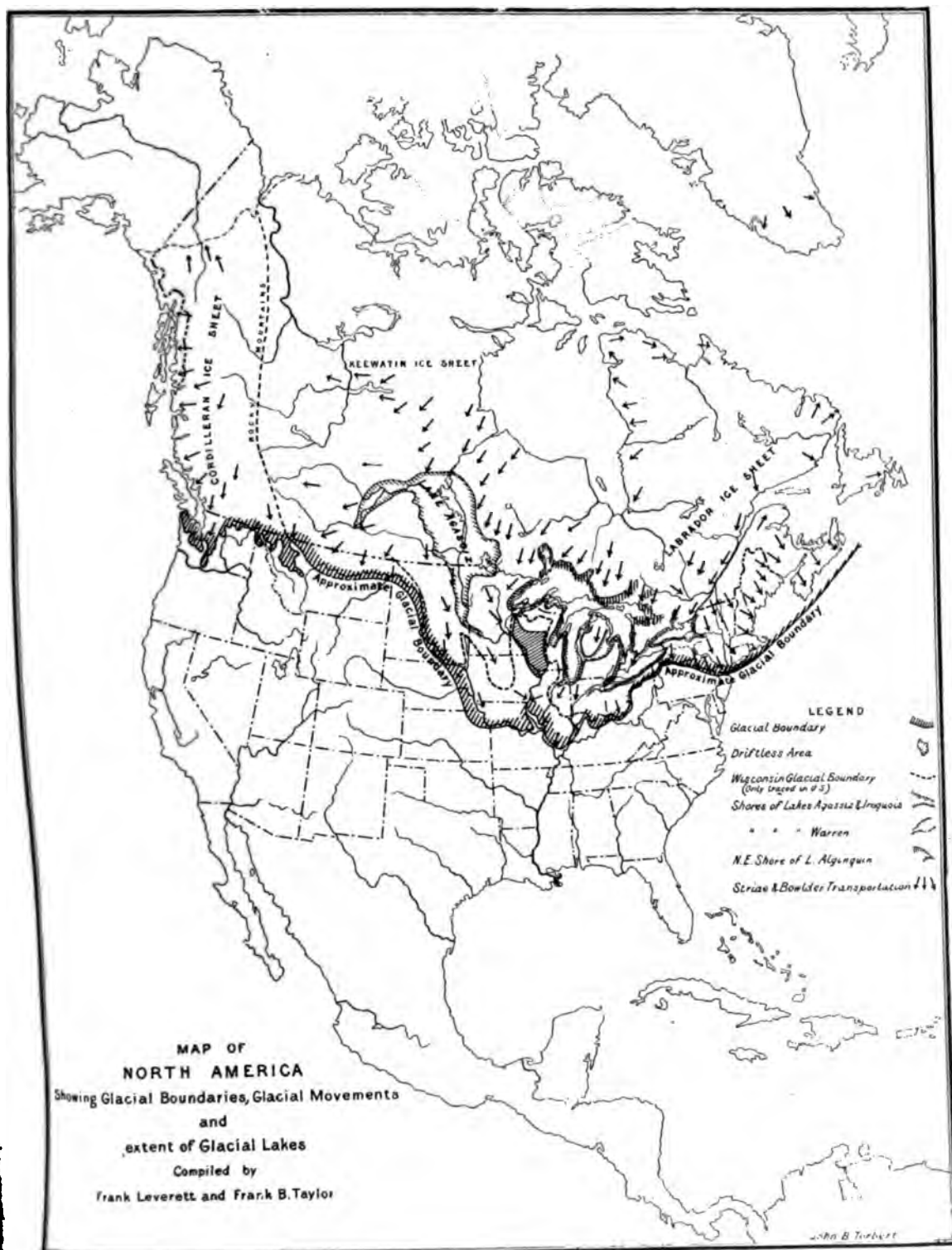
The loess and its associated silts is found at all altitudes in Southern Indiana; from the low tracts near the Wabash, scarcely 400 feet A. T., up to the most elevated tracts in Southeastern Indiana, which in places exceed 1,000 feet A. T. The great range in altitude is one of the most puzzling features of the loess. The same perplexing distribution is found in Europe as in America. As yet, no satisfactory solution for the problem of its deposition at such widely different altitudes has been found.

Interglacial Stage Following the Loess Deposition. Between the main deposition of loess and the invasion of Northern Indiana by a later ice-sheet, considerable time elapsed; for we find that the drainage lines have reached a much more advanced stage on the loess-covered districts south of the deposits of the later ice-sheets than they have upon those deposits. It is found that large valleys had been opened in the loess and the underlying drift before the streams from the later ice-sheet brought their deposits into the valleys. This interval of valley-erosion is thought by several who have had opportunity to study it, including the present writer, to be longer than the time which has elapsed since the ice-sheet last occupied Northern Indiana.

The question has been raised, whether the greater amount of erosion outside the later drift may not have been due to streams of large volume which accompanied the later ice invasion. That this is only a minor influence, is shown by the fact that valleys in Southern Illinois which lie entirely outside the reach of such waters are much larger than valleys of similar drainage areas within the limits of the later drift-sheet.

It cannot be urged that the region with the smaller valleys is less favored by slopes or stream gradients than the region with well-developed valleys, for the reverse is the case. There are large areas within the loess-covered districts which do not possess the reliefs and other conditions favorable for the rapid development of drainage lines which appear in much of the newer drift. In short, there appears no escape from the view, that the

⁷ *Geological Atlas, Report U. S. Geol. Survey 1888-90, pp. 47-48.*



interval between the loess deposition and the later ice invasion was a long one.

The Wisconsin Stage of Glaciation. After the interglacial interval just mentioned, there occurred one of the most important stages of glaciation in the entire glacial period. It is marked by heavier deposits of drift than those made at any other invasion. Throughout much of its southern boundary in the United States, a prominent ridge of drift is to be seen rising in places to a height of 100 feet or more above the outlying districts on the south, and merging into plains of drift on the north which are nearly as elevated as its crest.

At this time the ice reached its farthest extension in New England, and also in much of the district between New England and the Scioto River in Ohio. From the Scioto westward, however, it usually fell far short of extending to the limits of the earliest ice invasion. In Illinois it fell short about one hundred miles and in Iowa a still greater distance, but projected into the edge of the Driftless Area in Wisconsin. Partly because of this development in Wisconsin, Professor Chamberlin has called it the Wisconsin Drift Sheet. The limits of this ice invasion appear on the small map of North America.

The southern border of this drift-sheet in Indiana is less conspicuous than that in the states to the east and west. The ridge on its south-border in Western Indiana rises scarcely twenty feet above the outer border tracts, and it is no more conspicuous in Central Indiana. Indeed, from near Greencastle to the vicinity of Columbus there is not a well defined ridging of drift along the border; the limits there being determined by the concealment of the loess beneath a thin sheet of bowldery drift. From the east border of East White River a few miles below Columbus, northeastward to Whitewater valley at Alpine in Southern Fayette county, there is a sharply defined ridge of drift standing twenty to forty feet above outer border tracts. Upon crossing Whitewater, where the border leads southeastward, it is not so well defined as west of the river, though there is usually a ridge about twenty feet in height.

Although not conspicuous in Indiana by its relief, this border is about as clearly defined as anywhere in the United States. Within the space of a half a dozen steps one will pass from loess-covered tracts of earlier drift to the bowldery drift of this later invasion. Accompanying the change from loess to bowldery drift, there is a change in the color of the soil from a pale yellowish or ashy color to a rich black. This line is one of great agricultural importance. The district lying to the north is finely adapted to corn and timothy, while that to the south seems poorly adapted to these

crops. The southern district when uncultivated soon becomes thickly covered with briars, a feature which is not common on the black soil of the bowldery drift. In this connection we would remark, that while the loess has usually great fertility, the compact loess of Southeastern Indiana is adapted only to certain products. It seems as well adapted to wheat, orchards, and small fruits as the black soil, and there appears to be an appreciation on the part of the residents of this restricted adaptability.

Between the time when the ice-sheet stood at the line just discussed, and the final disappearance of the ice from Indiana, several moraines were formed. The best defined ones are indicated on the accompanying State map. In a few places not indicated on the map, weak morainic lines have been observed but their courses and connections have not been fully determined.

These moraines indicate considerable complexity of movement. It will be observed that several moraines lead eastward from Illinois into Warren and Benton counties, Indiana, and that their eastern ends are crossed by weaker morainic belts carrying many bowlders. These features appear to indicate that after the former moraines had been made and the ice had retreated some distance northward, there was a readvance of ice from the northeast to the line marked by the outer bowlder belts. It is as yet undecided whether much of an interval of deglaciation preceded this advance, but there was apparently a great shifting of ice-movement.

The prominent moraines which are overridden in Benton and Warren counties may find a continuation eastward in a belt of very thick drift which crosses Central Indiana from Benton county eastward, but which has not the definite ridges which are to be seen from Benton county westward. This belt of thick drift in Indiana is fifteen to thirty miles wide, and has a thickness perhaps three times as great as the general thickness of drift in bordering districts north and south of it. The average thickness is fully 200 feet. It leads south of east across Tippecanoe and Clinton counties to Western Tipton county where it turns abruptly southward through Eastern Boone and Western Hamilton counties and Marion county, coming to White River in the vicinity of Indianapolis. It there turns eastward and passes through Hancock, Henry and Northern Wayne and Southern Randolph counties into Ohio. This belt of thick drift was apparently overridden by the later advance. The weak moraines and bowlder belts of the later advance cross it obliquely in a northwest to southeast course in Western Indiana, and return in a northeastward course to it in Henry, Wayne, and Randolph counties.

This later advance apparently extended as far southwest as the bowldery moraine of Central Hendricks county and the bowldery morainic tracts of Southern Johnson and Southern Shelby counties. Its northwest limits were perhaps at the curving belt in Iroquois county, Illinois, and Newton and Jasper counties, Indiana, though there was possibly only a reentrant angle at that line with a Lake Michigan ice-lobe on the northwest.

From this outer limit of the later advance the ice-sheet appears to have shrunk on all sides until its limits on the northwest were at the moraine which lies along the north side of the Wabash in the vicinity of Logansport, and at the southwest were near the dotted line indicated on the Indiana map, leading from White county southeast to the vicinity of Indianapolis. It is in the district southwest of the latter line that feeble moraines and patches of bowlders are found crossing over the great belt of drift in oblique courses. From near Indianapolis, the line marking this later position of the last invasion, as shown on the map, leads eastward to the strong belt in Southeastern Delaware county.

There appears to have been at the stage just outlined, a lake bordering the ice on the northwest in which the deposits of sand were made which form such a conspicuous feature in Northwestern Indiana from Cass and White counties northward to the moraine north of the Kankakee. It seems probable that the eastern and northern, as well as the southeastern limits of this lake were determined by the ice, for we find that the sandy districts terminate at moraines on these borders.

The moraine leading northward from Northern Fulton county through Western Marshall and St. Joseph counties, would in that case, be about contemporaneous with the moraine on the north side of the Wabash in Southwestern Fulton, Miami, Cass, Carroll and White counties, and both would be of about the same date as the strong moraine lying north of the Kankakee. These correlations are not, however, fully established and should be taken simply as a working hypothesis to be tested by future developments in the study of that region.

In Northeastern Indiana, moraines appear along the north border of the Mississinewa, Salamonie, Wabash and St. Mary's rivers, which were apparently formed in succession as the ice was wasting away after its last advance. These moraines are traceable eastward across Northern Ohio and north-eastward into Southeastern Michigan and mark successive limits of a lobe of ice which flowed southwestward across the Erie and Maumee basins. This ice-lobe appears to have persisted at the line of the outer of these four belts to a date when there was open country on the northwest, for the

drainage lines lead from this morainic belt northwest to the St. Joseph river, passing across the moraines of the intervening district, as they would scarcely have done had the ice persisted there as long as in the Erie lobe.*

Having traced the ice-sheet to its final disappearance from Indiana, the reader may find in Mr. Taylor's History of the Great Lakes a continuation of the events incident to the retreat of the ice toward Labrador†.

SUCCESION OF ICE INVASIONS SHOWN BY DRIFT DEPOSITS.

The evidence of difference in the age of the drift, shown by erosion of its surface, has been discussed. Other lines of evidence of successive invasions have been recognized. One of the most interesting and significant is the presence in a vertical section of sheets of drift showing differences of age and of derivation. Such sections are occasionally seen along streams, and are frequently brought to light by wells. Professor Chamberlin has presented as the frontispiece illustration in Geikie's last edition of "The Great Ice Age," such a section found on Stone creek near Williamsport in Warren county, Indiana. There is exposed at the base, a reddish till of the earliest drift upon which there rests a bed of old ferruginous gravel. This gravel is overlain by a fresh blue till, which is apparently of the age of the moraines which lead into that county from the west. Above this till is another gravel bed much fresher than the one below. Above the gravel is a gray till, which was apparently deposited by the ice at the time when it fronted southwest, and had its terminus at the bowlder belt which crosses Warren county from north to south just west of the place where this section is exposed.

SUCCESION OF ICE INVASIONS SHOWN BY STRIÆ.

The striæ of Western Indiana, as may be seen by the maps, are widely different in their bearings. Until the several ice invasions had been recognized they were a puzzling feature; but they are now found to support the other lines of evidence of such invasions. Perhaps the best illustration is to be found near Williamsport. There are found in this village two sets of striæ; one bearing southeast and belonging apparently to the earliest invasion; another bearing southward and belonging apparently to the same invasion which formed the bulky moraines in that vicinity. Two miles east of Williamsport, on the north side of the Wabash, Professor Chamberlin found a third set of striæ, with westward-bearing, which apparently pertain to the last invasion of the ice.

At Monon and near Kentland, striæ of two dis-

*See 18th Report Ind. State Geologist, pp. 29, 89.

†INLAND EDUCATOR, Vol. II, p. 138, 216.

inct sets appear. The latest bear westward and belong, apparently, to the last ice invasion. The date of the earlier, southward-bearing striae, is as yet undetermined.

THICKNESS OF THE DRIFT.

There are surprising differences in the thickness of the drift within the state. The portion of the older drift exposed to view has, as already noted, an average thickness of about thirty feet. The additional 100 feet of the newer drift is, however, deposited very irregularly. In the belt of thick drift which leads from Benton county southeast to Marion county, and thence east into Ohio, the thickness is probably 200 feet. The portion of the newer drift area to the south of this belt has an average of about fifty to seventy-five feet. A still larger tract extending north from this belt of thick drift as far as Allen county and the west-flowing portion of the Wabash, has only fifty to seventy-five feet with limited areas where its thickness is but twenty to thirty feet. In Northwestern White, Southwestern Pulaski, and Southern Jasper counties there are several townships in which scarcely any drift appears excepting boulders and sandy deposits. In Northern Indiana the drift is very thick. Its average thickness for fifty miles south of the north boundary of the state is probably not less than 250 feet, and may exceed 300 feet. At Kendallville it is 485 feet, and at several cities on the moraine which leads northeast from Fulton county to Steuben county, its thickness has been shown by gas borings to exceed 300 feet. The rock is seldom reached in that region at less than 200 feet. Were the drift to be stripped from the northern portion of Indiana its altitude would be about as low as the surface of Lake Michigan, though much of the present surface is 200 to 300 feet above the lake.

DENMARK, IOWA

METHOD IN ARITHMETIC. --XII.

EXERCISE PLANS. FINDING THE AREA OF A CIRCLE.

Mensuration should be one line of work in the grades of a well-organized school.

The relations of number and form, of arithmetic and geometry, should be kept in mind by the teacher and progressively learned by the pupil.

To illustrate the general work in teaching such relations the following is given, a relation between the triangle and the circle.

- I. The general subject-matter is the process of finding the area of a circle. This may be one of several processes.
 1. The area of the circle is found by multiplying the circumference by one-half the radius.

2. The area of a circle is found by multiplying the diameter squared by .7854.
3. The area of a circle is found by multiplying the square of the radius by 3.1416.

The first is chosen as the form to be learned in this lesson. The book definition need not be studied antecedently to the lesson. The truth is to be developed from the nature of the triangle and the circle and their relations to each other.

II. Purposes in the mind of the teacher; effects upon the minds of the pupils.

1. To give the pupils a knowledge of the subject matter, that the circle's area may be found by multiplying the circumference by one-half the radius.
2. To arouse pleasurable emotions in this search for and mastery of new truths.
3. To affect the will in the entire process for immediate and remote results.

III. Movements of mind in learning this new truth.

1. Rethinking a particular triangle.
 - a. Its form and parts.
 - b. Its area as equalling the product of one-half its altitude by its base, which is easily generalized.
2. Rethinking a particular circle.
 - a. Its form and parts.
3. Thinking this circle as made up of several triangles whose bases are equal.
 - a. The sum of whose bases equals the circumference.
 - b. Whose altitudes equal the radius.
4. Thinking the area of the circle is equal to the sum of the areas of the triangles, and is the product of the circumference by one-half the radius.
5. Thinking this process as general, the area of any circle may be so found.
6. The association of the particular and general until the truth is fixed, the subject matter is a possession of the pupil.

IV. Basis for this work, the known whence the process advances.

1. A knowledge of the triangle, its parts, and the process for finding its area.
2. A knowledge of the circle and its parts, at least the circumference and radius.
3. Some experience in working out similar ideas.

V. Devices or means used in the process of teaching this particular subject.

1. A triangle, to cause the rethinking of its parts and their relation to the area.
2. A circle, cut into any number of equal triangles. To lead to thinking the equiv-

alence of their areas and the area of the circle.

3. Selection of one triangle and the statement of rule for finding its area.
4. Question concerning the sum of bases of the triangles and the circumference. To discover one factor in the product sought.
5. Question concerning the altitudes and the radius. To discover the second factor.
6. Call for a statement of the process for finding the given circle's area. To test the inferences of the pupils and to correct errors in the teaching.
7. Use other circles in a similar way. To generalize the truth.
8. Use several problems in which the pupils must see the applications of the truth. Word the problems so that they will require thinking. Let each new problem present but one new point or variation.

In a similar way the areas of all ordinary plane figures can be taught. The pupil need have no difficulty in knowing both the process and the reason therefor.

The apparent separation of mensuration from other arithmetical topics should be removed. The above simply applies arithmetical processes to geometrical forms. Unity is needed where diversity has prevailed.

S. E. HARWOOD.

CARBONDALE, ILL.

SCIENCE IN THE TEACHING OF ENGLISH. XIII.

MORE FORMAL GRAMMAR.

The following analyses of sentences will be found quite as formal as the definitions and parsing quoted in the last two articles, and they are from the same text:

"It is useless to deny the fact."

ORAL ANALYSIS.

1. This is a simple declarative sentence.
2. The grammatical subject is *it*, which stands for the logical subject, *to deny the fact*; the predicate, *is useless*. (Dealing with it in this way, I think I agree with the author. The predicate is quite *useless* to the child. I can myself see no earthly use for it when it is presented in this formal way.)
3. The logical subject is the phrase, *to deny the fact*, placed after the verb.
4. The predicate consists of the verb *is*, completed by the adjective *useless*.

WRITTEN ANALYSIS.

Simple Declarative Sentence.

I.—SUBJECT.

Logical subject.....To deny the fact. (Infinitive phrase.)

Grammatical subject.....It.

II.—PREDICATE.

Predicate.....is useless.

Predicate verb.....is.

Complement.....use less. (Adjective.)"

"That man is formed for social life is acknowledged by all."

ORAL ANALYSIS.

1. This is a complex declarative sentence.
2. The subject is the noun clause, *that man is formed for social life*; the predicate, *is acknowledged by all*.
3. The predicate consists of the verb *is acknowledged*, modified by the adverbial phrase *by all*.
4. The subordinate clause is introduced by the conjunction *that*.
5. The subject of the subordinate clause is the noun *man*; the predicate, *is formed for social life*.
6. The predicate of the clause consists of the verb *is formed*, modified by the adverbial phrase *for social life*.

WRITTEN ANALYSIS.

Complex Declarative Sentence.

I.—SUBJECT.

Subject.....That man is formed for social life. (Noun clause.)

II.—PREDICATE.

Predicate.....is acknowledged by all.

Predicate verb.....is acknowledged.

Modifier of predicate verb.....for social life. (Adverbial phrase.)

SUBORDINATE CLAUSE.

Introduced by the conjunction *that*.

I.—SUBJECT.

Subject.....man.

II.—PREDICATE.

Predicate.....is formed for social life.

Predicate verb.....is formed.

Modifier of predicate verb.....for social life. (Adverbial phrase.)"

This analyzing is no more closely related to the thought than is the parsing or the definitions quoted in former articles. None of this work rec-

ognizes the fact that the sentence is an instrument or symbol for expressing the thought; that it is not an end in itself, but is only a means. The child is thus led to deal with mere form; he thinks only of words and of calling them some long names, such as, *declarative, logical subject, grammatical subject*, etc. Or he is satisfied when he gets the sentence divided into certain groups of words, or has the words written in a certain form or order.

Many of the readers of this article will remember a time in the public school when much of this same kind of work was done under the name of *diagramming*. The object was to get the words of the sentence written in certain positions on the board, the slate, or the paper, with certain rings, or braces, or curlycues drawn about them so that they would "look pretty."

Any work in grammar which makes the sentence an end in itself is formal, because the logical explanation of the sentence or any part of it is in the thought which it expresses. There is no logical ground for the sentence aside from the thought which it expresses. Therefore, any grammar work which does not make clear the relation between the sentence and the thought is unreasonable, arbitrary, and formal. To attempt to deal with the sentence apart from the thought which it expresses is to try to eat the shell and throw the kernel of the nut away; it is to save the husks and lose the grain; it is to give the child a stone when he asks for bread; or to give him a serpent full of deadly poison which will check his mental growth, when he asks for a fish.

"*This old ship had been laden with lumber*." The subject is *this old ship*.

What does the child in the eighth grade mean when he says, "The subject is *this old ship*?" There are three of *this old ship*: 1. There is the real ship out on the water. It is made of lumber and other material—one may see it, and touch it, and walk aboard it. 2. There is the activity of thought which the ship awakens and which corresponds to it. We call it the *idea ship*. 3. Here we see a book, composed of four letters, which are printed in the book; which we write on the board or slate or paper; which stands for a combination of sounds which we may utter; and any one of these symbols—printed, written, or spoken—will arouse the activity of mind which occurred when the child came in contact with the thing out on the water.

What does the child mean when he says, "The subject is *this old ship*?" There is no ground for it if the child analyzes the sentence according to the model quoted. The child might analyze any one of the three, and give the analysis

quoted. He might be thinking: "The idea, *this old ship*, is the subject of the sentence;" or, "The real *this old ship* out on the water is the subject of the sentence;" or, "The subject of the sentence is the words, '*this old ship*.'" The teacher has no means of knowing whether the child is thinking the first, the second, or the third. If he is thinking the first or the second, he is mistaken. The last alone is right. The subject of a sentence is always a word or words. More than likely, however, the child who analyzes sentences in accordance with the preceding models, is not thinking, as the subject of the sentence, any one of the three clearly. He is not thinking at all, because the work is mechanical. He would be very much surprised, and would very likely think you a queer teacher, if you should ask after he has said, "The subject is *this old ship*," "What do you mean by *this old ship*?" He would not understand you, and if you should make your question clearer by partly answering it, and should say, "When you say, 'the subject is *this old ship*,' do you mean the real ship, the idea ship, or the words *this old ship*?" he would be more puzzled than ever. This analysis does not teach him to distinguish between the sentence and the thought—the word and the idea.

This kind of work in grammar will teach the child to be loose and slovenly in his thinking, whereby he loses the most valuable result of grammar properly studied. If the study of grammar does not fix in one careful habits of thought; if it does not lead him to observe closely; to make fine distinctions in thought; and above all, if it does not teach him to reason inductively—to form conclusions after examining a number of particulars, it is worse than useless—it is a waste of time.

Many of the readers of this article will remember with regret, that they wasted a good deal of precious time while they were in the public schools in *analyzing* sentences, *parsing* words and *committing* and *reciting* definitions in some such formal and mechanical study of grammar as is indicated in the quoted parts of these articles. They will remember how unsatisfactory the work was to them even at that immature age; how they hated grammar; how sneaking they felt every time they diagramed or analyzed a sentence or rattled off a *rigmarole* of parsing according to the Lindley Murray *rigime*, because they felt that it was a sham and they really had nothing for their labor.

There is a great deal of this kind of work in the public schools yet, and our text-books encourage it. Many, many children are suffering the same tortures which were inflicted upon you, dear reader. As Brutus, after his bitter experience and before he ran upon his sword, exclaimed,

"O Julius Caesar! thou art mighty yet:
Thy spirit walks abroad, and turns our swords
In our own proper entrails."

So we, adapting the language of Brutus to to our own purpose, might say with equal propriety: "O Lindley Murray! thou art mighty yet: Thy spirit walks abroad in our public schools and makes verbal gerund-grinders out of our students of grammar."

If we do not get rid of this spirit of Lindley Murray, it will certainly crush the mental life out of those who are under its rule. We have a hard fight before us and we had just as well take off our coats and begin laying about us, right and left.

I wish, in closing this article, to propound a question which was discussed in THE EDUCATOR for November, 1895, under the title, "Science in the Teaching of English." [See page 256.] The question is a vital one. Whether grammar is a formal, mechanical, arbitrary subject, to be learned by rote, or whether it is a thought subject which may be reasoned out, depends largely upon the answer to this question. The question may be stated in various ways as follows:

Is the subject of grammar an organized whole, or is it just a collection of facts put together promiscuously? Is there any way by which we may tell what facts belong to grammar and what do not, or is it just guess work, or does it depend upon the whim of text-book writers? Is there any good reason why we do not study cube root in grammar and do study it in arithmetic? Is there any order in which the facts of grammar should be studied, or can one begin any place in the subject and proceed in any order? Suppose I have all the facts of grammar—simple sentence, declarative sentence, noun, voice, case, person, number, etc.—spread out before me here on the table. Can I just close my eyes and put my finger down on any fact and begin the study of grammar with that, or is there a natural order inhering in the nature of the facts themselves—a relation among the facts which makes it necessary to take them in the order indicated by that natural relation?

Judging from the way in which the subject is presented in most of our text-books, I think we should be compelled to answer: Grammar is not an organized whole and there is no natural order inhering in the facts of the subject. One may begin at any point in the subject and proceed in any order. It is not a subject to be thought out anyway, it is deductive and is to be learned or committed, and one may commit it in one order just as well as in another. In support of these statements, I quote from the preface of the same text from which I have been quoting:

"The book is divided into four parts. Part First

treats of 'kinds of Words—the parts of speech;' Part Second, of 'Classes and Forms of Words—Subdivisions of the Parts of Speech, and Inflection;' Part Third, of 'Relations of Words—Syntax;' and Part Fourth, of the 'Structure and Analysis of Sentences.'"

It does not require much thought to see that the subject of grammar could not be reasoned out in this order, because the facts presented at the close of the subject are the facts upon which the facts presented at the beginning of the subject depend. To give a single example, whether a word is a noun, a verb, an adjective, etc., depends upon its use in the sentence. If we ask, *What part of speech is the word "fine?"* we are unable to tell until we see it in a sentence. If we say, *It is a fine day*, the word "fine," is an adjective. If we say, *The fine was remitted*, it is a noun. If we say, *I fine you ten dollars and costs*, it is a verb. If we ask, *In what case is the word "pen?"* we cannot tell until we see the word used in a sentence. If we say, *My pen is gold*, the word, "pen," is in the nominative case. If we say, *I write with my pen*, it is in the objective case. Much more might be said to show that when we are dealing with words in grammar the sentence is still the unit. We deal with words only as parts of sentences.

But the author quoted above has the child study parts of speech first and the sentence last. The case of the noun depends upon its use in the sentence; i. e., whether it is subject, predicate, direct objective modifier, principal word in a prepositional phrase, etc. But the author of this grammar has the child study the noun and case and then afterwards study the subject of modifiers upon which case depends. Space forbids the giving of other illustrations of the same point, but it might be said that the true order as indicated by the central principle in the subject and discussed in the November number referred to above, is just the opposite of that indicated by the quotation from the preface of this text. No child could master the subject of grammar in the order in which it is presented in this text without committing it, making it verbal memory work, mechanical and formal; and the arrangement of the topics of the subject in this order shows that the author hasn't the slightest conception of the organization of the subject.

J. B. WISELY.

TERRE HAUTE, IND.

How oft the sight of means to do ill deeds
Makes ill deeds done!

SHAKESPEARE.—*King John*.

PRIMARY WORK.

By SARAH E. TARNEY-CAMPBELL, Supervisor of Anderson Schools.

THE TOWNSHIP INSTITUTE.

The township institute is the one place where, aside from the personal visits of the county superintendent, the district teachers get most of their inspiration and ideas for their every-day work.

In most of the counties it is impossible for the superintendent himself to have actual charge of all these meetings and know the character of the work done. The next best thing is to make arrangements with some of the best teachers to see that the work done will be as helpful as possible. Different plans are being tried, and I will give one that has been suggested by one of the county superintendents in the southern part of the state, as suggestive of different ways of realizing most from these monthly institutes.

This superintendent, with his trustees, has arranged to distribute the good teachers over the county in such a way that he has one preeminently good one in each township, and to this teacher he expects a somewhat better salary to be paid. He meets these particular teachers probably once a month, or corresponds with them concerning plans he would like to see carried out. Each teacher presents these plans to the teachers of his township at the monthly institute and explains fully the scheme in hand. His plan, this past year, has been to consider especially, one branch each month, and he, with his township assistant, makes careful suggestions in regard to what points to consider, and how these points may be well and carefully taught. Each teacher is to try the work during the following month and report on his success.

One suggestion might be made in connection with this plan.

Each teacher might be required to report in writing ("Writing makes the exact man.") four things in regard to his trial of the plan: 1st, To what extent he tried it; 2nd, In what respects he found it adapted to his class; 3rd, In what respects it was not adapted to his class; 4th, Suggestions as to modifications of the work that was to be tried which he thinks would be an improvement.

At the next monthly institute there is from half to three-quarters of an hour set apart for the discussion of these "trials," and no one is exempt from the work. Other plans are again presented for the coming month, and while trying something new, each must hold fast to all the good he found in the preceding month's work. As the superintendent visits the teachers he will easily find out who are taking hold of the work and who are not.

SOME SIMPLE DEVICES.

This article is not designed for primary teachers in the best class of graded schools, but rather, it is for teachers in district schools and in small village schools of two or three teachers, where each one has three or four grades, (or more as in the country) and where the smallest children have comparatively a small part of the teacher's time.

If any one needs the most comprehensive helps it is the district teacher. The actual teaching time with the small children in the district schools is hardly one hour out of the entire six. Something of importance to keep the children busy during the time the others are reciting, should be employed. It is also true that the district schools are much more poorly provided with material for the primary part of the work than they are for the higher. Most district schools have a dictionary, many an encyclopedia and some of the reading circle books, at least. Nearly all have globes, and some of them of the most elaborate and expensive pattern. Many of them have maps and charts galore. Some also have a reading chart, but the very thing most needful, something to reinforce the work while the teacher is listening to other classes, is entirely wanting in many, many district schools.

So this article is for the district teacher and for the county superintendent who should see and insist that every teacher in his county use some helps in the primary work.

If a teacher must buy her own supplies, or if the trustee will make but few purchases she should ask for such materials as will help in the most possible ways. Any one thing which can be used as busy work for reinforcing a variety of subjects is what she wants to find.

The work in any school which is the most far-reaching is the reading work. The teacher combines her reading and nature work. It is always a language lesson. (It may be well to say this, as occasionally there are teachers who are not happy unless they know they are covering the whole ground.) Now, to determine one of the most useful devices, that is, one of the most general, 'all-purpose' materials to have on hand it will be worth while to examine some of the aids offered for the reading work.

There are charts that are to be used during the reading recitation. There are many advantages to be derived from this chart, but many of the most successful primary teachers prefer to make the lessons themselves, which they wish to use. Then, all the material the children bring to school, all the holidays and circuses can be utilized, and the interest in the reading lesson be increased. Probably, the most useful material is made by having

the letters of the alphabet printed on cardboard and cut so there is but one letter on a card. We have our alphabets printed so the small letter is on one side of the card and the corresponding capital on the other. There are three e's, two each of the a's, i's, o's, and u's, and one of each consonant for the alphabet. The letters should be good, plain type, about a half inch long. Eight or ten of these alphabets, put into an ordinary spool box (which is thrown away at the dry goods stores), are prepared for each child. This kind of work is suitable for the First Reader children, so it does not require very many.

The busy work with the very smallest pupils may consist in having the children make lessons from the readers or from the board on their desks, each using the letters from the box given him. A little later the teacher may put stories on the board, leaving blanks to be filled, which the children make on their desks, putting in the proper words. Still later, when they have learned to spell, or when they can hunt up words which they can't spell, they can make their own stories about the flower, the bird, or the squirrel. There are teachers who object to having the children do any of this purely copy work in making their stories exactly like those of the book or on the board. Of course, such work as this is most elementary, and just as soon as the children can spell the necessary words they should be encouraged to give stories of their own. When they put these stories into letters they frequently wish to use words they cannot spell. It is hardly advisable for them to spell the words as they may think them likely to be. It is better for them to leave blanks and read the stories just as if the words were really there. If a word is misspelled for a few times it is a very hard matter to correct.

A second material, and one that is probably second in importance, is one that will help in the line of number, size, form and color. One of the most helpful materials is colored pegs an inch long. These pegs can be bought, uncolored, in almost any town, and with two or three diamond dyes a teacher can readily make her own assortment of colors. One or two quarts of pegs are enough. These can be kept in a cigar box and a handful or two given to each child just at the period when the teacher wishes them used.

There are many ways of using them. If the class is studying 4, the request may be for them to make designs, using four pegs for each figure. Then a border may be made of these figures. The border may be made of different colors, arranged to look well. All sorts of number problems may be pictured with these pegs. The teacher may put the problems on the board, and the children may

put the work on their desks out of pegs. The children can lay the pegs to look like trees, crosses, boys, and flowers, as well as geometric designs. I know a teacher who throws out the most ingenious suggestions to her children when she gives them the pegs to use. "I saw a show parade the other day, and the animals went by 2's. There were 6 elephants, 6 camels, 6 bears, and 6 horses. Make this procession on your desks and leave a little extra space between the elephants and camels, between the camels and bears and between the bears and the horses." "I wonder if you can make flower beds with your pegs? Well, make these beds square, and put a green border around each bed of three pegs on a side. Then in one bed put 3 red geraniums, in another 3 white geraniums, and in the other 3 blue pansies. Then see if you can tell me how many flowers you have altogether." It is easily seen that these little people not only work out number relations but they are having an excellent drill in form (square), size (3 pegs or 3 inches on each side) and color. The variations of the work with the pegs are manifold. After using some of these simple devices, a teacher would as soon think of teaching geography without a map or a globe as the primary class without letter-cards and pegs.

If these two materials were purchased by the trustee for all the schools in his township, thereby getting them cheaper, because in a larger quantity, the cost of fitting out each district would not be more than a dollar or a dollar and a half.

Let the county superintendents urge their trustees to see that these simple and necessary materials are purchased.

STATE MANUAL.

Questions concerning the state course of study are very frequently asked. "What do you think of it? What are some of the strong features in it? What are some of the weak places in it that you think ought to be improved?" I have only one thing to say to all of this, and that is, that our state course of study has grown in logic and completeness much faster than the common school teachers have grown in ability to understand and apply what is given. The course has grown faster than have the opportunities for our district teachers for a thorough understanding of the principles of teaching and education. And with this, the teachers have not yet a just appreciation of the fact that understanding a subject is one thing, but understanding how to teach that subject is quite another matter, and one worthy of just as careful consideration as the first.

Our state course is concise, yet full enough to be easily understood, we think, by at least those teach-

ers who give careful thought to their work. Yet I seldom work in a county institute that I am not asked concerning the number, language, geography and reading work. When I take the manual and try to make the number work, for instance, more full and clear, they say they cannot keep the children during the whole of the first year working on numbers from one to 10, and during the second on numbers from 10 to 20. They say they can easily cover all this ground in three or four weeks and do just what the manual suggests.

Just the same difficulties arise in the language, reading, and geography. The teachers read their manuals and try to do just as suggested. Now, where is the trouble?

As I see it, the trouble is in the teacher. She has a very vague or incorrect notion of the true idea of real teaching. To too many of them the idea is of covering the ground; not of the real life development to be gotten out of the work. The first year of number is to consist of a manipulation of the combinations in the numbers from 1 to 10. But she fails to see the round of possible life experience that is to become a part of the child through this number. She does not see that number has any connection with the geography, language, science or reading work. It occupies one particular ten-minute period per day, and the teacher conscientiously keeps it from encroaching on any other time.

Again. We have a list of examination questions that are submitted to teachers for primary license. This list, has to a much greater extent than the regular list, questions bearing on the educational value of many of the different subjects; the best way of presenting certain things to children; the range of a child's ability, etc., etc. But the district teachers do not take this examination. Only those who are legitimately primary teachers are given this test. And, it may be remarked, that these teachers who do take this examination have the advantage of a superintendent who is supposed to understand the different grades of work; they are associated with other teachers, usually, in the same building and have the value of almost daily contact with teachers doing the work immediately preceding and following their own, and there are grade meetings in which the work is carefully discussed. (I must make an exception on this last point, as I personally know towns in this state almost large enough to become cities, in which grade meetings or teachers' meetings of any kind are almost unknown, and the superintendent seldom goes inside a teacher's room, although he has but an hour and a half a day of teaching himself!)

The country school teacher does not take this examination—does not even know what the ques-

tions are that the teacher who teaches small children only is asked if she wishes a primary license. And, with hardly an exception, the country teacher has from six to fifteen children doing the regular primary work. As I see it, if these country teachers were in some way (and I don't know what would be best) required to pass a primary examination as well as the other one, it would result in their acquainting themselves with these questions regarding primary work. They would try at least to make sufficient study of these questions to get a license, and that would at least be a small gain.

But, after all, there are very few good teachers who have become good from reading works on method and teaching, and education, and educational papers alone. Fire is best kindled by a spark of fire. One of the greatest helps, I might say *the* greatest help is to be intimately associated with some teacher who is a master of his art; to catch his spirit, zeal, enthusiasm; to see how he looks at vital questions; how he weighs processes and results; and above all, to find and appreciate his insight into true, valid school experience and its place in the life of the little child. A genius may learn how to teach from books alone, but very few of us lay claims to being geniuses. The books and papers—give us these, all there are—but also give us the association of some one whose face is toward the true gospel of education, and whose head is bathed in the eternal sunlight of truth. It is an experience of this kind that we district teachers need. When we have gotten this, the manual will be transformed from a mere mechanism into an instrument for touching the hidden lives of the children in our charge.

BUSY WORK MATERIAL.

While teachers are resting—especially primary and wholly inexperienced teachers—it is a good time to keep eyes open for material to be used as busy work the coming year. But during all the collecting let it be a clearly-defined purpose that each material selected is to serve some definite end; to help reinforce some particular subject.

Probably the most helpful device for reinforcing primary reading and spelling is by means of the letter-cards spoken of in another place. If those are not furnished by the school board the teacher should supply them for herself.

Primary stories taken from school journals that are in larger type than the commonly printed page are good. These are made still better by the teacher who uses a typewriter and with a carbon paper runs off twenty-five copies of each little story. Some teachers do this from the common hektograph pad.

Stories to help on noted birthdays, Thanksgiving

and Christmas can be prepared now. Of course new things may suggest themselves when the particular day arrives, but what you have already prepared will supplement that work.

Material to assist in the number, form, and color work is plentiful. Probably the one thing that can be put to most uses is the common shoe pegs an inch long and mixed colors. If these are not furnished, the teacher should lose no time in buying the common uncolored pegs (they can be gotten for 30 cents a peck) and then color them herself. But aside from pegs there are red and white corn, date seeds, peach seeds, buckeyes, hickory nuts, acorns, and almost dozens of other things that help materially in the number work. I had almost forgotten tooth-picks, which are excellent for fractions because so easily broken.

Then pictures. Don't forget pictures; pretty ones to put on the walls low enough that the children can see them; some that are simple and pasted on cardboard for the children to copy; others cut into slices each put in an envelope for the children to put together; then still others to be used in the reading, language and nature work.

The last thing I shall suggest is stories. No one can have too great a variety to select from. There should be stories on purpose for opening exercises. Then fairy tales, nature stories, child experiences, for general work. And last, stories that will help in biography work and Thanksgiving, Christmas, St. Valentine, and Easter.

A teacher of several years' experience showed me her collection of pictures and stories. In one box she had all the material on Thanksgiving which she had been collecting for years. There were pictures of the Pilgrims, of the landing, the home building, life, and sports, etc., etc. There were stories on every phase of Thanksgiving time. When she found something new she used it and then put it in the box to which it belonged.

She opened her Christmas box and there were stars of different sizes cut out of pasteboard covered with silver and gold paper ready to be used at the proper time. In the St. Valentine box there were numerous designs for valentines which the children might copy. This teacher was one of the training teachers in the Cleveland schools and in order to have time for the most careful study of education and how she could best apply the principles, she had learned to classify and save all sorts of suggestions and materials from year to year. She knew that some good things are always good, and time and energy are saved when these can be put aside for future use.

I understand this is all a very small matter—this getting such commonplace material, labeling

boxes and keeping from year to year what you have found out to be good. But try it, and you will have more leisure for reading, for study, and for a general "good time" occasionally. No matter what may happen, you know you have something to fall back upon to reenforce all the different phases of your work.

SPELLING.

In Scotland, the Spelling Book is sometimes called the *Spell Book*, and we ought to adopt that appellation here, for, as it is often used with us, it does cast a spell over the faculties of children which, generally, they do not break for years;—and oftentimes we believe, never. If any two things on earth should be put together, and kept together, one would suppose that it should be the idea of a thing and the name of that thing. The spelling book, however, is a most artful and elaborate contrivance, by which words are separated from their meanings, so that the words can be transferred into the mind of the pupil without permitting any glimmer of the meaning to accompany them. A spelling book is a collection of signs without the things signified;—of words without sense;—a dictionary without definitions. It is a place where words are shut up and impounded so that their significations cannot get at them.

In teaching children words in the earlier stages of education, the objects they designate should, as far as possible, be presented. When the object is familiar to the child, but is one which is not or cannot be present or in sight, then, let it be referred to, so that there shall be in the mind of the child a conscious union of the name and the object, as in case of the words, river, boat, moon, etc. If the object itself cannot be exhibited and is not familiar, so as to be referred to, then some representation or model of it should be presented. But let a preference always be given to the object itself, or to the recollection of it, when known. In the school of Pestalozzi, a series of engravings, was prepared representing a variety of objects, whose names, structure, and use the children were to learn. One day the master having presented to his class the engraving of a ladder, a lively little boy exclaimed, "but there is a real ladder in the court-yard; why not talk about that rather than the picture?" "The engraving is here," said the master, "and it is more convenient to talk about what is before your eyes, than to go into the yard to talk about the other." The boy's remark, thus eluded, was for that time disregarded. Soon after, the engraving of a window formed the subject of examination. "But why," exclaimed the same little objector, "why talk of this picture of a window, when there is a

real window in the room and there is no need to go into the court-yard for it?" In the evening both circumstances were mentioned to Pestalozzi. "The boy is right" said he, "the reality is better than the counterfeit;—put away the engravings and let the class be instructed in real objects."

This was the origin of a better mode of instruction, suggested by the wants and pleasures of an active mind. Put away the engravings, we respond, where the real objects can be had or referred to. If it be impracticable to exhibit the real object, as it is to show a ship to an inland child, then present a picture, or what is better a model.

Again, the things, the relations of art, of science, of business, are to the mind of the child, what the nutriment of food is to his body; and the mind will be enervated, if fed on the names of things, as much as the body would be emaciated if fed upon the names of food. Yet, formerly, it was almost the universal practice, and we fear it is now nearly so, to keep children two or three years in the spelling book, where the mind's eye is averted from the objects, qualities, relations of existing things, and fastened upon a few marks, of themselves wholly uninteresting.

The gorges and marshy places in the Alps and Pyrenees produce a race of idiots, known technically, by the name of cretins. These beings are divided by physiologists into three classes.* The cretins of the first degree are mere blank idiots. But the cretins of the third degree have great facility in acquiring languages. They can be taught so as to translate the words of one language into those of another, though without the slightest comprehension of the meaning of either; and what is more remarkable, they will, as far as the rhyme is concerned, make good poetry. If words are taught to children for years during the most active part of their life, without any of the ideas they are intended to convey, ought we to be surprised if much of our public speaking and popular literature should be the production of cretins of the third degree?—*Horace Mann*.

ECHOES OF THE N. E. A.

The meeting was the largest in the history of the association. It is claimed that over 17,000 visitors were present. Very many of the prominent educators of the country were present. Of course, Dr. Harris was there, and he was present with a message. He read a paper before the National Council of Education, July 4, upon the subject "How the Will Combines with the Intellect in the Higher Orders of Learning." In this paper he described six stages of knowing: "First, simple passive reception of impressions without the action of the will; second, the first direction

of the intellect by the will, producing attention; third, the second action of the will, using attention repeatedly and guiding its successive acts—analysis; fourth, the third intention of the will, which, through analysis, discovers relations to other objects or beings, and thus discovers relativity or the relation of dependence upon other things. This last is called synthesis. The general name, reflection, is given for the union of synthesis and analysis, and this is our fifth step. Up to this point we have traced the orders of knowing from the simplest sense-perception up to the highest scientific knowing. There is a sixth order of knowing which considers the action of independent beings, or wholes, and formulates the necessary truths concerning the totality of relative beings which belong within it." These six stages of knowing were dwelt upon at length.

On July 7, Dr. Harris delivered an admirable address on Horace Mann, which was considered the great address of the meeting.

In discussing the paper of Superintendent Mills-paugh of Salt Lake City on "The Ethical Value of History in the Elementary Schools," Dr. Harris said: "Education makes one an articulate member of the higher whole, and moral education is founded on that. In applying the principles in the school, four virtues are of necessity manifest. They are regularity, punctuality, silence and industry. I have seen a child stand and rebel finally against its instructors. It refused positively to do what it was told. That is rebellion against our institutions on the part of the pupil. What we must do is to overcome that spirit, to cultivate the transcendental will, to develop it, to make it strong, to enable it to raise its owner and lead him up to the higher whole." Dr. Harris seemed to be at home in every phase of education and was interested in every discussion.

The *Buffalo Express* says the following speech made by Dr. Gove of Denver was the "star" speech of the council:

"We are not living fifty years back.' It seems to me that the tenor of this whole conversation has been, 'Oh, the good old times.' We are planning for the present and future according to conditions fifty years ago. Speaking personally, I do not think it is honorable and fair in me to say that because I lived on corn meal for six weeks forty years ago, my boy must do the same thing to-day. Because I had to saw a cord of wood every Saturday and work in the mornings and in the evenings to get my education, that is no reason why my boy should saw a cord of wood every Saturday and work mornings and evenings to get his education. It's not good for him. Moreover, his mother does not believe it is. Because I endured hardships and

struggles due to conditions forty years ago, is no reason why my boy, living in these times, should suffer the hardships of bygone days. It is not right. It is not reasonable. There is danger in all this old-days' talk. If we would get close to our boys and stay close to them, we cannot do it by telling them, 'From this time forth you must be forty years old.' Every boy who can have \$1,000 a year for his education should have it. If he can't have that, let him have as much as he can. If he can't have any, then let him work his way through. If he cannot work his way through, then he doesn't deserve to get through. I would give my boy \$1,000 a year if I had it. We should recognize changes in condition, and recognize that there are changes in children, too. We must remember that the children of to-day are not children born and living under conditions that died forty years ago."

President Baker of Colorado University in speaking of morning exercises, said: "That is where the monotony gets irksome. The only thing to do is to break up the monotony and sweep it out. I know, as well as you, that students go to chapel day after day in a perfunctory, indifferent spirit. The services pall on them. Now, how can it be remedied? In other words, how can the chapel, or church, if you please, be made interesting and absorbing to the degree that the student is eager to attend? I will tell you one plan that is working successfully with us, and it may be of value here in the East. Every member of the faculty in turn conducts the services. There is no cut-and-dried form—no dead delivery of stale statements. The leader puts life and color and action into his exercises. The students appreciate genuineness and truth. They get interested. That makes the chapel a success."

The following officers were elected for the ensuing year:

President: Charles R. Skinner, State Superintendent of Public Instruction, Albany, New York.

Secretary: Irwin Shepard, Principal State Normal School, Winona, Minnesota.

Treasurer: I. C. McNeill, Principal State Normal, West Superior, Wisconsin.

Vice-Presidents: Newton C. Dougherty of Illinois; W. A. Bartholomew of Kentucky; J. N. Wilkinson of Kansas; Thomas A. Futrall of Arkansas; W. W. Stetson of Maine; O. B. Cooper of Texas; Emma F. Bates of North Dakota; James K. Powers of Alabama; C. G. Pearce of Nebraska; J. H. Collins of Illinois; Thomas B. Stockwell of Rhode Island; J. T. Merrill of Iowa.

Give every man thine ear, but few thy voice.

SHAKESPEARE.—*Hamlet*.

SCIENCE WORK IN THE ELEMENTARY SCHOOLS—IV.

THE STUDY OF THE EARTH AS A PLANET.

How can we see the earth rotating?

How can we see it revolving round the sun?

How can we learn the causes of the seasons?

How can we get a good idea of the moon's movement and phases?

How can we see the planets going round the sun?

Globes and tellurians and charts are helps, but they are by no means sufficient. Their use is conditioned on observation, otherwise, the mind doesn't see beyond the cumbersome mechanical device. It is a serious mistake in education to enter upon a labored explanation of a cause to pupils who have but blindly observed the phenomenon. How should we study the earth as a planet? By years of observation of the movements of the heavenly bodies, supplemented at the proper time, by globes and charts. These years of observation belong principally to the elementary schools. What kind of observation is necessary? Certainly not the casual, popular, unscientific kind, that foretells the weather by the moon; that never detects the sun going eastward among the stars nor the moon overtaking and passing the sun. Scientific observation is necessary. To be in the highest sense scientific these observations should be made by a telescope equatorially mounted, but there is such a thing as scientific naked-eye observation. The purpose of this paper is to show how to make naked-eye observations that are scientific, and to show the advantage of such work in elementary education.

To see celestial movements and to locate lines and points on the celestial sphere we must learn the land-marks, which are the principal stars and constellations; and the best way to do this is to make charts of constellations and groups of constellations. Some conspicuous figure, or figures, usually serves to locate a constellation, and this is all that is necessary to be charted. The Dipper is enough for the Great Bear. The Sickle-and-triangle is enough for Leo.

How can we see the earth rotating? Not alone by observing the rising and setting of the sun, because the daily movement of the sun is so striking that it is hard to think of as not real. It is by observing the daily movement of the heavenly bodies, especially the stars, in respect to the pole-star. The pole-star seems to be the pivot about which the heavens revolve. When we can contemplate the earth's axis as pointing toward the pole-star, and see the northern stars, in their daily movements, describing circles, parallel with each other, and each star keeping always the same

distance from the pole-star, we begin to see the earth turning on its axis from west to east. After we have extended our observations southward and see that the diurnal circles of all the stars are parallel with each other and oblique to the horizon, and that there are stars that never set (north circumpolar stars), stars that are above the horizon more than half the time, stars that are above the horizon half the time (equatorial stars), stars that are above the horizon less than half the time, and stars that never rise (south circumpolar stars), --after we see this order of things, the earth's rotation is more evident. The celestial sphere traced in the imagination, with the oblique and parallel diurnal circles of the stars is called the oblique sphere. With such a view, the teacher can intelligently direct observations that will ultimately help pupils to see the earth rotating; see it with the mind while contemplating the oblique sphere.

Such a line of work begins with the circumpolar constellations. Nearly everybody knows the Dipper, then begin with this. Require pupils to make chart after chart of this constellation until it is done right. Then chart the Dipper and pole-star. Require the pole-star to be placed in the center of the chart, and the day and the hour to be written at the bottom. Another chart may contain the Dipper, the pole-star, and the Maiden's Chair. In another put the Dipper, the Little Dipper, and the Maiden's Chair, and call this a chart of the circumpolar constellations. These are not all of the circumpolar constellations, but they are the principal ones, and enough for the purpose. To be able to make this chart means a good deal. The pole-star must be at the center and the meridian, not necessarily drawn, must divide the chart into right and left halves. The stars must all have their relative positions to each other and to the meridian, and the day and the hour must be noted. By the time pupils are able to make a good chart of the circumpolar constellations, and have made a series of charts for three or four different hours of the night, they see that these stars seem to revolve round the pole once a day. They may be able to see that a revolution is made in a little less than a day, once in a star day. A series of charts of the circumpolar constellations for the year, say one for each month, always made at the same hour of the night, will show that these stars also revolve round the pole once a year from east to west, conformably with the star day's being less than twenty-four hours. The cause of this will be made plain when we study the zodiacal constellations. The work on the circumpolar constellations may be graded as follows:

1. Learn to recognize the Dipper.
2. Learn to chart it.
3. Learn to find the pole-star by the pointers.

4. Chart the Dipper and the pole-star.

5. Chart the Dipper, the pole-star, and the Maiden's Chair.

6. Chart the Dipper, the Little Dipper, and the Maiden's Chair. We may call this the circumpolar chart.

7. Make a series of circumpolar charts for one night.

8. Make a series for one year.

This systematic work on the circumpolar stars is very slow. To make a series of charts showing the apparent annual motion requires a year, and before the pupil is qualified to begin this series he must have learned to chart accurately the aspect of the polar region of the heavens at any time. The making of the series is light work, one chart a month does it. The most of the time, then, should be devoted to charting other constellations, especially those that contain first magnitude stars. A few stars well studied, fix the idea of the oblique sphere. First, the pole-star, very near the pole. Then the pointers, with their parallel diurnal circles. Then Capella, whose diurnal circle merely dips below the northern horizon and crosses the meridian not far north of the zenith. Then Vega, that rises northeast-by-north, and sets northwest-by-north. Then Arcturus whose diurnal circle is not as far north as that of the sun at the time of the summer solstice. Then an equatorial star; the most northern star in the belt of Orion is on the celestial equator. It rises due east and sets due west; one-half of its circle is above the horizon. Its diurnal circle helps us to see the celestial equator as it stands in respect to the poles and horizon. Then Sirius, which rises east-southeast, and sets west-southwest. The greater part of its circle is below the horizon. Then Fomalhaut, which rises southeast, crosses the meridian rather low in the south, and sets in the southwest. Only a small part of its diurnal circle is above the horizon. The south celestial pole may be thought of as the pivot about which Sirius and Fomalhaut revolve. The paths of these two stars help us to think further towards the south pole and understand that there are south circumpolar stars that never rise. The image made in the mind by these stars and their diurnal circles helps us to see the relation of celestial poles and equator, and forces upon us the fact of the earth's rotation.

Why the axis of the earth tends to point always in the same direction may be illustrated by spinning a top.

How can we see the earth going round the sun? First, we must see the sun going round the earth. To see this we must learn the zodiacal constellations. At the opening of school in the fall a good constellation to begin with is Scorpio. During Sep-

tember it is well presented in the southwest. Give the year to charting the zodiacal constellations. Finish one chart before beginning the next; remember that there is danger of a constellation getting away, if you don't chart it while it is in good position. A year's work on these constellations makes it plain that one by one they are meeting and passing the sun. At one time we see a constellation setting behind the sun, later we see the same constellation rising before the sun. After a while the mind begins to see more and more clearly that the sun is making a circuit of the heavens through the zodiacal constellations.

A series of charts of any constellation, made at intervals, say of one month each, and always at the same hour of the night and having its position in respect to the horizon noted, shows that the stars are moving west in respect to the sun, a result of the sun's moving eastward among the stars. This is the apparent annual motion of the stars, first noticed in our study of the circumpolar constellations.

It is not now difficult to explain that the earth's going round the sun causes the sun to seem to go round the earth. The path of the earth, in going round the sun, is the earth's orbit. The apparent path of the sun, as it seems to go round the earth, is the ecliptic.

That the earth in revolving round the sun must always keep in the same plane may be illustrated by a revolving sling.

How can we learn the causes of the seasons? The work necessary to this knowledge may be graded as follows:

1st. Observations of the slant of the sun's rays at noon, at different times of the year, especially at the times of the equinoxes and solstices. The edge of the shadow cast by the sill of a south window may be marked upon the floor, and a board may be leaned against the window sill with one end at the mark to show the slant of the sun's rays. If the marks on the floor are preserved and dated, the change of slant from season to season becomes plain.

2d. Observation of the areas of the shadow cast by a given object at the times of the solstices and equinoxes. To do this set up a short board at the south end of a table and with a delicate paint brush trace the boundary of the shadow projected by the board upon the table; write upon the table, within the area of the shadow, the date of the observation. These experiments show that a given beam of sunshine is spread over different areas at different times of the year. Measure the different areas and compare the heat received by a given square inch at the different dates.

3rd. Observations of the diurnal circles of the

sun at different seasons of the year. We see the sun moving through the constellations of the zodiac. When he is among those that are north of the celestial equator, as the stars about him, he is above the horizon more than half the time; when on the celestial equator he is, as an equatorial star, above the horizon half the time; when south of the celestial equator he is, as the stars about him, above the horizon less than half the time. Associate the changes in duration of daily sunshine with the advancing and retreating diurnal circles of the sun.

The causes of the seasons, as now learned, are the difference in slant of the sun's rays and the difference in duration of daily sunshine. The cause of these differences we have already seen. It is, the sun is half the year north and half the year south of the celestial equator. Briefly, the cause is the obliquity of the ecliptic.

We have now the foundation to understand the division of the earth's surface into the zones of light.

Also, we have the foundation for working out the seasons of other latitudes. If we go to the equator, we have no seasons in the proper meaning of the term; because there the diurnal circles of the heavenly bodies are half above and half below the horizon. If we go north the seasons become more and more extreme, because the diurnal circles become more and more oblique. The region of circumpolar constellations grows larger and larger (easily shown by a celestial globe), and if we go so far north that the stars about the summer solstice become circumpolar, there the sun while passing the summer solstice behaves as a circumpolar star, and for a time never sets. We do not have to go very far north, about the time of summer solstice, to see the sun simply dip below the northern horizon; it is proper to say that he dips, as then seen from our latitude (about 40° north).

How can we get a good idea of the moon's movement and phases? Make a series of charts showing the phases of the moon and her position among the stars from night to night, during the period from new moon to full moon. To give this direction is hardly necessary, because while we are working with the zodiacal constellations the moon is often an interesting intruder, and is sure to be charted. We can measure the lunar month, approximately, from one first quarter to the next first quarter. We can tell when the moon is very near the first quarter by the strikingly perfect half phase. We can approximate the length of the sidereal month by noting the position of the moon in a constellation and, afterwards, the time of her return to same (or nearly the same) position. W-

proximate the length of a lunar day, by observing the time of the moon's crossing the meridian on two successive days. The lunar day is the length of the tide day. The lunar month (29½ days) is the origin of the calendar month. The phases of the moon divide the lunar month into quarters; the nearest number of whole days in a quarter is seven; this is the origin of the week. The difference between the lunar month (29½ days) and sidereal month (27¼ days) shows very strikingly that the sun is running eastward among the stars.

How can we see a planet going round the sun?

By a series of charts showing the movement of the planet among the stars. We become acquainted with the brighter planets while working on the zodiacal constellations. If one is in the particular constellation that we are studying, it should always be designated on the chart by its sign (as + for Venus). After we leave the constellation to learn another, let us return, and chart it once in a while to see what the planet is doing. We shall soon find that it is moving. If it is moving east, it is going forward; if west, it is retrograding. By following an inferior planet (as Venus) through its forward and retrograde movements, we really see the planet going round the sun. While retrograding it is simply passing between us and the sun. To follow one of the near planets through its period as an evening star is enough to show us that the planet is going round the sun. If we make a record of the positions of Jupiter and Saturn from year to year, it is easy to see that they are getting farther and farther eastward every year, notwithstanding each has a spell of retrogradation while we are passing between it and the sun. The retrogradation of Venus is a real motion, and observing it helps us to see the planet going round the sun, while that of Jupiter or Saturn (superior planets) is an apparent motion. In their race round the sun, the earth, every thirteen and three-tenth months, overtakes and passes Jupiter. Because we are then unconsciously passing him, he seems to be falling back among the stars.

Learning some of the principal stars and constellations is about all that we could expect below the grammar grades. Five or six first-magnitude stars and as many of the most conspicuous constellations well learned before entering the grammar grades, would be sufficient foundation for completing the work indicated in this paper.

W. P. SHANNON.

GREENSBURG, IND.

Absence of occupation is not rest,
A mind quite vacant is a mind distressed.

COWPER.—*Retirement.*

NEW GENERATION.

The last generation was born and educated under other institutions, and brought into active life strong hereditary and traditional feelings of respect for established authority, merely because it was established; of veneration for law, simply because it was law; and of deference both to secular and ecclesiastical rank, because it had been accustomed to revere rank. But scarcely any vestige of this reverence for the past now remains. The momentum of hereditary opinion is spent. The generation of men now entering upon the stage of life will act out their desires more fully, more effectively, than any generation of men that has ever existed. Already, the tramp of this innumerable host is sounding in our ears. They are the men who will take counsel of their desires, and make it law. The condition of society is to be only an embodiment of their mighty will; and if greater care be not taken than has ever heretofore been taken, to inform and regulate that will, it will inscribe its laws all over the face of society in such broad and terrific characters, that, not only whoever runs may read, but whoever reads will run. Should avarice and pride obtain the mastery, then will the humble and the poor be ground to dust beneath their chariot wheels; but, on the other hand, should besotting vices and false knowledge bear away, then will every wealthy and educated and refined individual and family stand in the same relation to society, in which game stands to the sportsman.—*Horace Mann.*

A MAIDEN'S IDEAL OF A HUSBAND.

Gentle in personage,
Conduct, and equipage,
Noble by heritage,
Generous and free;
Brave, not romantic;
Learned, not pedantic;
Frolic, not frantic;
This must he be.
Honor maintaining,
Meanness disdaining,
Still entertaining,
Engaging and new.
Neat but not finical;
Sage but not cynical;
Never tyrannical;
But ever true.

—*Henry Carey.*

None but himself can be his parallel.

LOUIS THEOBALD.—*The Double Falsehood.*

**THE INLAND EDUCATOR.***A JOURNAL FOR THE PROGRESSIVE TEACHER.*PUBLISHED MONTHLY AT
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CHARLES M. CURRY, } *Editors.*

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CHANGE OF ADDRESS.—When subscribers desire a change of address they should always indicate the old address as well as the new. We will change a subscriber's address as often as desired, but must insist that this condition be complied with.

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The New Year. With this issue THE EDUCATOR begins its second year and its third volume. Enough has been said in former issues in regard to the somewhat phenomenal success which it has already achieved, and we enter upon the publication of our third volume with every reason for encouragement. No one feels greater cause for congratulation than the editors and proprietors of the magazine at the very great interest manifested in the articles which have been published during the past year. We have not been able in all cases to present articles which we had promised, owing to the fact that many of the series extended through more numbers than was at first contemplated. We believe, however, that the policy of having discussions more complete, and having them run through several numbers is one that adds very materially to

the value of the discussion for teachers. Our readers may rest assured that no efforts will be spared to keep THE EDUCATOR up to its high standard and to increase its efficiency during the year to come. While the task of editing such a magazine is by no means a light one, yet the editors have found it very pleasant work with hardly an exception. Our readers have been very patient in regard to any short-comings in connection either with the editorial or business management of the paper. The hundreds of letters that continually reach us from subscribers and prominent educators over the country impress the editors with the fact that their work has not been entirely in vain. THE EDUCATOR does not, by any means, propose to rest upon the record which it has made in the past, but continual effort will be made toward its future improvement.

* * *

**James
McCosh.**

With this issue we begin the publication of a series of articles on great educators. Dr. McCosh is a fitting subject with which to begin this series. No man has left a greater impress upon the educational affairs of this country. It is also a fitting time to present this article because the institution that received the large share of the labors of Dr. McCosh in this country is soon to celebrate its 150th anniversary. So we are glad to present something of a great man and a great institution at the same time. The writer knew Dr. McCosh and counts it a great privilege to have called him teacher. Every man in Princeton loved the President living, and will keep him in memory as a gracious benediction.

* * *

**Why Do
You Teach?**

There has been a very large increase in the number of applicants for positions to teach this year. Nearly every vacancy has been zealously sought by many candidates. School trustees say they never saw so many people so anxious to teach. This is easily accounted for. These are close times and people on salaries fare best. It is natural that many people out of work are looking for salaries. This increase in the numbers knocking at the teacher's gate may come from several directions. There are those, who, having left the profession in better times, now wish to teach again till times get better again. There are those who have never taught, but who believe that anybody can teach, and seek to bridge over the time of adversity. There has been a large attendance at schools and

colleges during the last two or three years, despite the hard times. The large graduating classes, this year, must be provided with employment. It is natural that these men and women should seek employment that will bring salaries. Many of these have no thought of teaching school longer than to bridge over the financial stringency; many teach so as to have an income while studying law or medicine. Then, there are those who have been preparing to teach school; it is fair to say that this number is larger than ever before. These are the people who wish to make teaching their life work. To this end they have been spending their time and money studying those problems which will fit them for this work. They believe that teaching is a profession; that only those can teach who understand the subject-matter and the nature of the being to be taught; that it is a great responsibility to undertake to direct the child; that ignorance of the principles of teaching is criminal in the teacher to-day. In short, these are the men and women who have entered this vocation because they believe it to offer the grandest opportunity in life for bettering humanity.

When applicants belonging to all these classes have approached school trustees this year perhaps they have not been asked why they wish to teach school, and we shall find representatives from each class in the school-room this year. Why do you teach?

Young People's Reading Circle Books.

The list of books of the Young People's Reading Circle for 1896-7 is an excellent one. We have been reading these books and have not found a poor one in the list. In our opinion this provision for the reading of our young people is the greatest movement that has been made in education. The good to be derived from providing the children of to-day with good reading-matter can not be estimated. It is possible for every child to have the very best in literature, and we firmly believe that it is the absolute duty of school officers to provide these books in sufficient quantities.

Webster's International Dictionary.

The International is a marvel in book-making, both in content and mechanical excellence. It is very satisfactory in every way. It seems to us to represent the best there is in the English language. It is always dignified. It is a standard of excellence for the student, and no teacher can afford to be without it. This edition is a complete dictionary. It is practically a new book. The supplement and much new material have been worked into the body of the book.

The word wanted is found, its pronunciation ascertained, its growth traced, and its meaning learned with greatest ease; and in all these points the International is full and accurate. We can heartily commend it.



W. B. Sinclair. THE EDUCATOR, in keeping with its promise of last month, presents here the picture of Superintendent W. B. Sinclair, Democratic candidate for State Superintendent. The teachers over the state will meet Mr. Sinclair during the summer, as he will visit many of the institutes.

The June Arithmetic Examination. We have had many requests for a solution of the first problem in the June arithmetic examination. The following is the only solution we have seen that fills all the conditions of the problem:

Let $\$x$ = the payment made annually. Now, the interest on $\$6000$ at 6% for one year is $\$360.00$. \therefore The amount is $\$6360.00$, due at end of first year. Deduct the payment, $\$x$; \therefore $\$6360 - \x remains. \therefore $\$6360 - \x is the principal for second year. This sum at 6% for the year gives as interest

($\$6360 - \x), .06 or $\$381.60 - .06x$. Hence the amount at end of second year is $\$6741.60 - \$1.06x$. Take away payment $\$x$, and $\$6741.60 - \$2.06x$ is the principal for the third year. This at 6% gives $\$404.496 - \$1.236x$ as int. third year. \therefore Amount at end of third year is $\$7146.096 - \$2.1836x$. Take away payment $\$x$, and the principal for fourth year is $\$7146.096 - \$3.1836x$. This sum at 6% yields $\$428.76576 - \$1.91016x$ interest. \therefore Amount at end of fourth year is $\$7574.86176 - \$3.374616x$. Take away $\$x$ as payment and the remainder is $\$7574.86176 - \$4.374616x$. Since the last payment cancels the debt, nothing remains.

$$\therefore \$4.374616x = \$7574.86176$$

$$\therefore x = \$1731.55 \text{ to nearest cent.}$$

Indiana University. The growth of this institution during the last few years has been remarkable. In 1884 the total enrollment was only 144; this year the enrollment was 879. The University has been fortunate in securing well-prepared, live young men for its professors, and this may in part account for its prosperity.

SOME RECENT BOOKS FOR ENGLISH TEACHERS.

Practical Exercises in English. By Huber Gray Buehler. New York: Harper & Bros. Pages 152, price —

Specimens of Exposition. Selected and edited by Hammond Lamont. New York: Henry Holt & Co. Pages 180, price 50 cents.

Studies in Structure and Style. By W. T. Brewster. New York: The Macmillan Co. Pages 280, price \$1.10.

Practical Rhetoric. By John B. Quackenbos. New York, Cincinnati and Chicago: American Book Co. Pages 477, price \$1.00.

The Arden Shakespeare. Separate plays edited by various persons. Boston: D. C. Heath & Co. 40 cents each.

Teaching the Language-Arts. By B. A. Hinsdale. New York: D. Appleton & Co. Pages 205, price \$1.00.

The interest taken in the subject of English in the schools is evidenced by the large number of text-books on every conceivable phase of the work which are being issued by the various publishing houses, and by the almost unlimited number of articles appearing in all kinds of journals and magazines on the same topic. The books issued range from books of exercises, through the fields of analysis, rhetorical criticism, annotated classics, etc., to works which aim to develop the pedagogy of the subject. While the principles which should underlie the teaching of English are gradually as-

suming a greater clearness, there is still to be found a vast divergence of view among those who attempt to treat the pedagogy of the subject, owing mainly, we believe, to a failure of the parties in the discussion to use terms in the same sense. In no other subject is there among practical teachers so much variety of opinion about the best methods of procedure as in the study and teaching of English. Among the most valuable books that have been issued recently are those which stand at the head of this article. They are on different phases of the subject, but each is of distinct value in the field that it attempts to treat. They are books that can be recommended without reservation.

The aim and scope of Mr. Buehler's book is aptly indicated by its title. It is practical in the best sense of the word. In his preface the author says, that, "since pupils come to school with many of their habits of expression already formed on bad models, our schools must give some attention to the special work of pointing out common errors of speech, and to leading pupils to convert knowledge of these errors into new and correct habits of expression." The book is constructed on the principle that correct English is largely a matter of correct choice between two or more forms of expression. The bulk of the work is, therefore, made up of exercises in which the student is obliged to discriminate in the use of possible expressions. His habits of correct expression are to be strengthened thereby. It should be noted that this book is prepared especially to accompany Professor Hill's admirable "Foundations of Rhetoric," published by the same house. The teacher who is desirous of finding an abundance of material for his high school classes, or even for the use of classes in the more advanced grades of the district schools, will not find a better source than this book.

The second book mentioned, forms one of a series published by Henry Holt & Co., under the title of "English Readings." That part of the series of special interest here, consists of four volumes already published, to which a fifth is to be added. These books take up each of the four discourse processes, and by means of apt illustrations chosen from the best writers, illustrate all of the principles of the subject. The books in the series which have been issued so far are as follows: *Description*, by Charles S. Baldwin, *Narration*, by W. T. Brewster, *Exposition*, by Hammond Lamont, *Argumentation* (modern) by George F. Baker. The fifth volume on Classic Argumentation is to be edited by Mr. Baker. The first part of each volume consists of the introduction by the editor, in which the nature of the special discourse process under

consideration is clearly worked out. Then follow the selections, accompanied by any notes that are necessary to make their meaning perfectly clear. Thus, we find that Mr. Lamont begins with a clear statement of the theory of exposition. Following this he illustrates, by means of Arnold's essay on Wordsworth, the development of the plan. Four outlines of this essay are given, beginning with the very simplest and proceeding to the more complex. Following this introductory matter we have a number of the best specimens of exposition from leading writers. No one can follow the work in this little book without having the general subject of it impressed much more forcibly and clearly upon his mind than it has ever been before. The only objection that it seems possible to make to the series is, that the selections are often incomplete portions of larger works. It is a question in the minds of some teachers whether it is not better to take one production and illustrate from it all of the laws of narration or exposition, as the case may be, instead of selecting short passages from a number of works. Of course, it can very truthfully be said, that no one selection is likely to illustrate in their entirety all of the leading principles of the discourse process.

Mr. Brewster's "Studies in Structure and Style" is a valuable addition to the list of works which aim at a definite treatment of rhetorical analysis. The studies are based upon seven modern essays, and the selections could hardly be better than those given. They are as follows: Froude's *Defeat of the Spanish Armada*, Stevenson's *Personal Experience and Review*, Morley's *Marianism*, Arnold's *On the Study of Celtic Literature*, Ruskin's *Crown of Wild Olive*, Newman's *What is a University?* Bryce's *The Strength of American Democracy*.

The book would be valuable as a collection of seven striking modern essays, even if there were no studies in structure and style accompanying them. In treating the structure of the essays, Mr. Brewster discusses such topics as (1) the object of the essay, (2) the principles of its structure, (3) the plan of the narrative, (4) questions on the structure of the essay, and (5) general suggestions. The plan of the chapter or essay, is generally carefully worked out by means of a diagram, which makes clear the relations of all the parts of the selection. In these studies on structure three things are made clear: (1) the architectural plan, so to speak, of the thought, (2) the method by which the thought is fitly framed and joined together into the whole, and (3) as a larger problem following these two, the fitness of the structure thus planned and articulated to meet the con-

ditions both of purpose and of the circumstances impressed upon the author. In his notes on the style of the essay Mr. Brewster discusses each under three heads: the purpose of the style, the technique of the style, general summary and suggestions. The work is a model of book-making; the text of the essays having numbered paragraphs and lines, with notes and introductions wherever necessary. The book is further enriched with some excellent bibliographies, and with an admirable introduction by Professor George R. Carpenter of Columbia University. We have never seen a book that would impress quite so fully as this upon the mind of a student, the fact that the structure and style of a production are not mere outside forces, but organic parts of it.

The fourth book mentioned has just been issued by the American Book Company, and takes up the subject of rhetoric from a somewhat new point of view. The author has adopted the aesthetic as the true basis of literary criticism, and has endeavored to show that the principles of rhetoric are but corollaries of that larger principle of pedagogy known as harmony or adaptation. With this idea in mind, the author has worked out a very interesting and valuable treatise on this old but ever new subject. The student is very largely led to work out from selections given the laws of discourse. The sentences and selections which are used as a basis for this work are well selected, and are, for the most part, new and interesting. Laboratory method largely prevails, and a goodly portion of the book is devoted to the instruction and practice in the various phases of actual composition work. Mechanically the book is everything to be desired. Different sizes of type are used to distinguish various portions from others; paragraph headings in full-face type are used, and the book has a good index.

The Arden Shakespeare is the name of a new edition of Shakespeare for the use of schools, published by D. C. Heath & Co. The plays are edited by various persons, although the general plan of each volume is the same. Only a few volumes have as yet been published, but it is the intention, we believe, to make the edition complete. The volumes are neat and handy in size and reasonable in price. The text is clear, although rather closely printed. The Globe numbering is used. The notes are very interesting and are, for the most part, admirably made. The literary side of the plays, rather than the philological is emphasized. The only objection that has been urged to the editing is, that very much is done for the student that ought to be left for him to work out for himself. This may be true of institutions which

have fairly good reference libraries at hand, but for the smaller high schools, where student and teacher must depend very largely upon the text in hand, it is doubtful if the objection is a valid one. Each play has an introduction which treats of the date, source and history of the play and of its general nature. Appendices are added to each volume, which treat, sometimes, quite fully of the main difficulties or interesting allusions in the play. One feature of the appended matter which can be heartily recommended is the part on rhythm and meter. We believe this edition will take its place by the side of the two other standard annotated texts now mainly in use in American schools.

The last volume in the now famous and popular International Education Series is entitled, "Teaching the Language-Arts," by Professor B. A. Hinsdale of Michigan University. A former volume in the series by Professor Hinsdale on, "How to Study and Teach History," met with very great favor, and it is safe to predict that the present volume will meet with even a better reception. It is by far the best and most complete treatise on the subject. The Language-Arts, as Professor Hinsdale uses the term, comprises the topics of speech, of reading and composition. In short, the book is a complete discussion upon the principles which underlie the presentation of all forms of English work in the schools, from the primary grades to the University. Professor Hinsdale has the faculty of presenting philosophic truths in language which can be comprehended by the ordinary teacher. He is conservative and safe in his advice, and for that reason his book will be of the utmost value. The tendency, too often, in articles on teaching of the various phases of English, is to take up some radical proposition or dreamy methodology which it is impossible to carry into practical execution.

(C)

There seems to be a great revival of interest, especially in England, in the Pollard Synthetic Method in reading and spelling. Superintendent Perrin of Wellesley, Massachusetts, in his annual report issued in January, 1896, says, in speaking of this method that, "Distinctiveness is becoming a noticeable feature for which teachers have formerly striven in vain." See in another column, advertisement of the Western Publishing House, Chicago, Illinois.

Together let us beat this ample field,
Try what the open, what the covert yield.

—Pope.

TOWNSHIP INSTITUTE WORK FOR 1896-97.

THE EDUCATOR, during the coming year, will place a great deal of stress upon the township institute work. The general nature of the work is such that it will be of large importance to teachers all over the country. The teachers of Indiana will have for their Reading Circle work Guizot's *History of Civilization*, and Tompkins' *Literary Interpretations*. Work upon these two books will constitute half of the work to be done in the township institutes. The teachers were never offered a better opportunity to make some advance in professional work as well as culture studies. The committee has acted wisely in limiting the program this year for each institute to four subjects. These subjects are of interest to every public school teacher in the country. THE EDUCATOR will, each month, offer some suggestions along these lines of work by men and women who have made these subjects a life study. We believe that this department will be of great value to all readers of THE EDUCATOR. Following will be found the program, outlines and discussion for the September institutes. We shall be glad at any time to answer any questions which may arise in regard to the work:

LITERARY INTERPRETATIONS.

The general culture book on the Indiana State Teachers' Reading Circle list for the coming year is called *Literary Interpretations*. It consists of four selections from standard literature, accompanied by analyses, the whole preceded by an introduction on the nature of literature. The selections given are Hawthorne's *Great Stone Face*, Lowell's *Vision of Sir Launfal*, Tennyson's *Two Voices*, and Emerson's *Self-Reliance*. The introduction and analyses are written by Professor Arnold Tompkins, of the University of Illinois. The book is designed to be of great benefit to one who is on the lookout for better work in advanced reading. The introduction is a very full discussion of the nature of literature, and to it our readers should refer in their study of the outline below. In succeeding numbers it is our intention to present, by means of suggestive questions and outlines, additional points for help in interpreting the four selections chosen. In connection with the study of this book, teachers who are especially interested in trying to understand the principles which should underlie English work in the schools ought to study carefully Professor Hinsdale's *Teaching the Language-Arts*, which is by all odds the most helpful book accessible on the subject, and can be had from D. Appleton & Co., Chicago, for \$1.00. Some of the articles published in THE EDUCATOR

during the past year will be of interest in this discussion. We call attention especially to the following: "English in the Commissioned High Schools," in our August, 1895, issue; "English in the High Schools," by Professor Sampson, in the September, 1895, issue; Note on the "Teaching of Style," by Mr. N. W. Stephenson, in the May, 1896, issue; "Literature in the Primary Grades," by Miss Craig, in the June, 1896, issue. In addition to these, the articles on "Science in the Teaching of English," by Professor J. B. Wisely, which have run through the entire year, will be found very helpful, and the articles on the "Study of Shakespeare," by President Parsons, contain, also, many very excellent hints in regard to the nature of literature and the best methods of studying it.

Outline for the First Institute.

1. What is meant by the Nature of anything? By the Nature of Literature?
2. Make it clear that the nature of a thing determines how to teach it to a given class,—that every subject reveals its own method, and that its method cannot be borrowed or imported.
3. What is the spiritual need, or impulse that gives birth to discourse? To literary discourse?
4. What is meant by the theme of a discourse? What are the marks of a literary theme?

GUIZOT'S HISTORY OF CIVILIZATION.

(Lectures I and II, pp. 1-63.)

LECTURE I.—CIVILIZATION IN GENERAL.

1. Examine the meaning of civilization. What are its elements and accompaniments? What are its evils? Its benefits? Make a summary of the tests of civilization, *i. e.* the marks of civilized life, such as intellectual attainment, liberty, self-government, commerce, good roads, good schools, elevation of woman, etc. How is social progress a test of civilization? Individual progress? Do these go together?

2. Distinguish between civilization in general and any special civilization.

LECTURE II.—EUROPEAN CIVILIZATION IN PARTICULAR.

1. Summarize the distinctions between European Civilization and the civilization of the ancient world. Unity as opposed to diversity; tyranny and suppression as opposed to independence.

2. Show the importance and office of the *city*, or corporation, in Roman conquest and civilization. Why could the city republic conquer the world better than she could rule it?

3. Chief bequests of Rome to civilization. (a) The municipal system. (b) The imperial idea. (c) The organization of christianity. (d) The

civil law, etc. Name others.

4. Services of the early Church to civilization. External circumstances making these services possible.

5. Stages in the rise of the organized Church.

6. How Church rulers came to exercise temporal control.

7. Contribution of the German to civilization:

- (a) Individualism. (b) Representative Government. (c) Local Self-Government. (d) The Bicameral System of Government. Add others.

Part I. The Man.

It is to be the good fortune of the teachers of Indiana to study, during the coming school year, the most remarkable work of one of the greatest political philosophers of the present century. Inasmuch as the writings of a man are largely the reflection of his true being, it would, perhaps, be well to spend a few moments upon Guizot, himself, before considering his masterpiece, the *History of Civilization*.

Born in 1787, two years before the outbreak of the French Revolution, he was destined, by his calm historical philosophy, to induce many of his countrymen to take a saner view of governmental affairs instead of being swept away by the deluge of impracticable and visionary ideas which were so prevalent in France during the first half of the present century. Both his judicial temperament and his historical training tended to place him in an uncompromising opposition to revolutionary ideas and in favor of a stable and well-ordered government.

His early family recollections, too, were such as would naturally not predispose him in favor of the revolutionary party. His father had given up his life on the scaffold in 1794, a victim of the madness of the Reign of Terror. But, while setting his face firmly against the excesses of the revolutionists, he was by no means an advocate or supporter of the absolutism of the Bourbon kings. He would have neither the unrestrained tyranny of an irresponsible monarch nor the peculiar kind of republicanism then advocated in France. He decries both "despotism" and "anarchy." His ideal government was a constitutional monarchy of a peculiar kind—a golden mean between "royal authority and popular government."

Guizot was a man of humble parentage, and, though a sincere Protestant, he was liberal in his views and was much influenced and greatly impressed by the writings of his Catholic contemporaries. He was an ardent admirer of practical ideas, and frequently referred with approval to that passage in Rousseau's *Emile* which urges that every man should learn a trade. He, himself, was

carpenter; yet, notwithstanding this practical bent, he was not a many-sided man of affairs. Although he gained eminence as an historian, orator and statesman, his development was, as might be expected, that of the scholar and specialist rather than that of the man of practical affairs. During his long connection with the government of France, it became evident that he knew almost nothing of finance, commerce, the army or navy. Neither was he an adept in general administrative problems. In educational matters, however, he was exceptionally strong.

Guizot devoted himself to literary pursuits up to 1830, and was not known in politics. In that year he entered the Chamber of Deputies and soon gained fame as an orator, debater, and parliamentarian. He was effective and convincing. His eloquence was "terse, austere, demonstrative and commanding,—not persuasive, not humorous, seldom adorned, but condensed with the force of a supreme authority in the fewest words. * * *

* * * The audience hung upon his words with breathless attention. Not a syllable, not an inflexion of the voice was lost,—nothing was repeated; and when he ceased it seemed as if the waves of an ocean had been spellbound by his voice."

In 1832 he was placed at the head of the Department of Public Instruction. This post was congenial to his tastes and he soon made himself felt. In fifteen years the number of primary schools in France increased from ten to twenty-three thousand, due largely to legislation procured by him. Normal schools for the training of teachers were organized and an efficient system of inspection was introduced.

Guizot's worth as a man is well reflected in the sterling integrity of his writings. "The solid structure of his character * * * remained throughout perfectly simple, indifferent to wealth, and prouder of his own integrity than of all the honor the world could bestow. M. Guizot will be remembered in history less by what he did as a politician, than by what he wrote as a man of letters, and by what he was as a man—and in these respects he takes rank amongst the most illustrious representatives of his nation and age."

His later years were devoted to literary pursuits, and constitute the most enjoyable portion of his career. He died in 1874 at the mature age of 87 years.

Part II. The Book.

Guizot's *History of Civilization* consists of fourteen lectures delivered at the Sorbonne in Paris. The main object of the course was "to combat revolutionary theories and to reconcile liberty with social order." The lectures began in 1825, but were

soon interdicted by the government for obvious reasons. This governmental interference served only to increase the interest already manifested, and when the lectures were resumed in 1828, large and enthusiastic audiences from all classes of society flocked to hear him. These lectures were soon after published in book form and were never revised. The author stated in his memoirs thirty years later, that he believed the sketch was in the main true, and needed no revision except in points of detail. The little book created a profound impression, and no other has yet appeared which takes its place. It was an epoch-making work, and opened the way for scientific and philosophical methods of research.

Although the outline is clear, vigorous and masterly, it is not perfect in every essential. The research and criticism of more than half a century have successfully assailed some of the essential positions of the writer. An instance may be cited from the second lecture. Here the importance of the Roman municipal system is unduly exalted. It is called the principal bequest of ancient Roman civilization to modern Europe, "the only living principle" * * * and "the only one (principle) that survived the general destruction of the Roman world." This, certainly, is a mistaken view. The Roman municipal system was fast decaying while the *Roman Law* remained and exists to-day as the grandest bequest of the Roman world. Rome will be remembered in gratitude, not for her municipal system, but for her system of jurisprudence. Professor Diman is correct when he says: "Had M. Guizot sought for the results of Roman civilization, not simply in the direct and limited sphere of her positive institutions, but in the indirect and far wider scope of her legal maxims, he would not have termed the municipal system her main bequest to modern times."

In showing the gradual evolution and unity of the history of Europe for thirteen centuries, it is not strange that Guizot's method of treatment, and his estimate of the influence of the various elements constituting that civilization, have not met the approval of all of his critics. President T. D. Woolsey contended that the method was faulty, since Guizot treated of the external forms of institutions instead of their internal meaning. He is also criticised from the same source for treating the outer forms of the Church and omitting the "silent forces of Christianity."

It will be noted that Guizot mentions three great sources or elements of the civilization of Europe—the Roman, the Christian and the Teutonic or Germanic. In this enumeration he is doubtless correct, but not so in his estimate of the relative importance of the three elements. In this respect he

falls into the error common to almost all French writers of unduly exalting the Roman influence and of disparaging the Germanic. It is but natural that the Frenchman should appreciate, and even overestimate the influence of Rome, since France was early and thoroughly Romanized. It is equally natural that he should not appreciate to the fullest extent those vital principles of order, liberty, and government which have constituted the priceless bequest of the Germanic races to the modern world, and especially so, since these principles were at times obscured. The outward appearance of lawlessness and disorder attendant upon Feudal anarchy were looked upon with horror and dismay, and even exaggerated by French historians. That living principle of liberty and good government which has made the Anglo-Saxon race famous was not fully appreciated. It should be said, however, that in this respect Guizot has erred less grievously than have the great majority of French historians.

Again, in lecture IV, in speaking of the position of woman, he attributes her recognition to the Feudal system. The Feudal chief, he says, was practically isolated from the rest of the world, save only his own family, and in due course of time he came to appreciate the true worth of mother, wife and sister. As a result, then, of the Feudal system, woman was assigned to her proper sphere in the individual world. It seems plain to me that the refining influences of Christianity, with its inhibition of polygamy and other pagan practices, must have been vastly more influential than the Feudal system in bringing about the proper recognition of woman.

The above instances will serve to indicate the care and thought with which the book should be studied. A careful perusal of it will disclose what seem to be errors of detail or of judgment, but the conclusions are in the main based upon thorough information and reliable data, and have successfully withstood the criticism of more than sixty years.

SOME OTHER WORKS BY GUIZOT.

The following list contains some of the most important of Guizot's historical works:

- (1.) History of the Origin of Representative Government in Europe. London. 1860.
- (2.) Essays. Paris. 1823.
- (3.) Outline of the History of France from the Earliest Times to the Outbreak of the Revolution. Boston. 1880. This is an abridgment of No. 4.
- (4.) A popular History of France from the Earliest Times. 6 vols. royal 8vo. 1876.
- (5.) Collection of *Mémoires*. 31 vols. 8vo. 1824-1835.

- (6.) *Mémoires* for a History of my own Times. 8 vols. 8vo. 1858-'67.
- (7.) History of Civilization in France. 3 vols. N. Y. 1860.
- (8.) History of England. 4 vols. 1879.
- (9.) Life of Cromwell. 2 vols.
- (10.) Life of Monk.
- (11.) The English Revolution. 2 vols.

References.

- (1.) The articles on Guizot in the *Britannica* and *American Encyclopædias*.
- (2.) C. K. Adams: Manual of Historical Literature. See p. 46 for estimate of the *History of Civilization*.
- (3.) President T. D. Woolsey: Article in the *New Englander*, vol. XIX, pp. 409-428; also in same volume, pp. 871-881. April and October. 1861.
- (4.) Professor J. L. Diman: Article in the *New Englander*, vol. XXXI, pp. 1-35. January. 1872.
- (5.) A. Alison: Essays on Guizot in *Miscellaneous Essays*, pp. 367-380.

THOS. F. MORAN.

PURDUE UNIVERSITY, July 26, 1896.

METHOD.

1. Definition.

1. Method is the mental process. It is the mind's process in mastering a new point of knowledge. It is the mental process in making the ideal real. It is the mind's activity of making the objective subjective. It is thinking a thing. This is true with respect to a particular point; with respect to a branch of study, and with respect to the objective world.

2. Let the popular meaning of the term, method, be considered—the manner of manipulation of devices; as, cubes, tooth-picks, letter-cards, questions and text-books.

(Show that the former view is the most helpful, and that it is the true view.)

3. Method in its true sense is universal; *i. e.*, the same for all minds with respect to a fixed point. Illustrate.

4. There are not various methods with reference to the same point. Illustrate.

5. Number of methods.

a. Suggestion.—There is one for every individual. There is one for every subject-matter.

b. There is the child's method.

c. There is the teacher's method.

1. In the teaching act the child's mind undergoes the activity necessary to master the thought in the thing taught. He also sees more or less vaguely the purpose of the lesson.

but he probably does not think to any great extent the activity of his own mind in transmuting the thought in the lesson into his own mental activity. Neither does he expend much mental energy upon the means used by the teacher to lead his mind to act the appropriate activities to the points in consideration; nor does he consciously emphasize his knowledge nearest related to the new points.

The teacher, on the other hand, must not only think what the child thinks, but must think the child's thinking. He must think the thought in the point to be taught (*subject-matter*); he must see in terms of the child's spiritual development the reasons for teaching the subject-matter (*purpose*).

Purpose is the beginning and the end in the process. The purpose as idea—the beginning moves forward in the process of its realization—the end. The teacher further sees the nearest related knowledge possessed by the child, which he can use to build upon (*basis*); also the activities of the child's mind in mastering the subject-matter (*steps*), and the means he can best use to lead the mind of the child to take the appropriate steps (*devices*). Thus in the teacher's method he thinks: a. Subject-matter; b. Purpose; c. Basis; d. Steps; e. Devices. (Show that this must be done in teaching a single point, a whole lesson, or an entire subject.)

The above work in method is very full, and it seems to us very suggestive. We do not care at this time to offer anything further on method than to suggest that the following references will be found very helpful, indeed, to those who are taking up this work: "The Real Province of Method," by Professor Howard Sandison, INLAND EDUCATOR, Volume I, page 1. "Essentials of Pedagogy," by Professor A. R. Charman, INLAND EDUCATOR, Volume I, page 15. The articles on General Method, by Professor Charman, in INLAND EDUCATOR, Volume I, pages 88, 171, 231, 302, 357.

GRAMMAR.

I. Subject-matter.

1. As a science.

A. The subject-matter of grammar as a science is the constructed sentence (1) as a whole, (2) as to its parts, with respect to their relations, classifications and definitions.

2. As an art.

A. The subject-matter of grammar as an art is the constructed sentence as to its correctness, clearness, forcibleness and elegance. (It is studied with a view to giving the student skill in the use of the sentence as an instrument in conveying his thought.)

II. Purpose.

1. Primary.

A. Stated negatively,—It is not to teach the student to speak and write correctly.

B. Stated positively,—The primary purpose of grammar is mental development by the excellent exercise it furnishes in the following processes: a. Observation; b. Discrimination; c. Abstraction; d. Generalization; e. Inductive reasoning; f. Identification; g. Deductive reasoning.

2. Secondary.

A. To lead the child into the habit of using good English in expressing his thoughts.

B. To furnish a basis for the work in the other studies of the language group, and to complement it.

III. Steps in the light of the purpose and subject-matter.

1. All definitions will be developed inductively.

2. All points will be fixed and reenforced by the mental process of identification. (Hence the value of parsing and analysis.)

3. All form will be mastered in the light of the principle, that the meaning is the strongest bond of association with the form.

The above outline has been prepared to aid the teachers of the state in their study of grammar in the township institutes this fall and winter. A brief discussion of the points, together with references to sources of information on the subject, will enable teachers to get more out of the study of the outline.

The subject-matter of grammar is the sentence with its various forms and manifold shades of meaning, together with all the facts connected with it.

Read the following references:

1. INLAND EDUCATOR for October, 1895—the article entitled, "Science in the Teaching of English," p. 175.

2. "A New English Grammar," (Wisely) pp. 16, 40.

3. "Studies in the Science of English Grammar," (Wisely) p. 12.

When we study the sentence in order to discover its nature, the principles and laws according to which it is constructed, we are dealing with what may be called the science of grammar. But this knowledge of the nature of the sentence, and the principles underlying its construction, enables us to determine when sentences are constructed properly and to make our usage conform to these requirements. This phase of the subject may be called the art of grammar.

Read the following references:

1. The articles entitled, "Science in the Teaching of English," INLAND EDUCATOR for October,

1895, p. 175; April, 1896, p. 156; May, 1896, p. 223.

2. "Language for the Grades;" (Wisely) read the preface and first fifty pages.

3. "A New English Grammar," (Wisely) p. 9.

4. "Studies in the Science of English Grammar," (Wisely) p. 7.

It is right to say, perhaps, that the primary purpose of the study of technical or scientific grammar is not to teach the child to speak and write correctly, and yet the natural consequence of a proper study of the science of grammar is better speaking and writing. The two cannot be separated except in thought. The great purpose in the study of grammar, however, is mental development. The greatest contribution which the study of grammar makes to the child is the contribution which it makes to character.

On these points, read:

1. "A New English Grammar," (Wisely) pp. 4, 10, 23, 24.

2. "Studies in the Science of English Grammar," (Wisely) pp. 7-10, 19, 20, 26.

3. INLAND EDUCATOR for October, 1895—the article entitled, "Science in the Teaching of English," p. 176.

4. INLAND EDUCATOR for August, 1896—the article entitled, "Science in the Teaching of English," p. 223.

The teacher must constantly keep in mind the fact that grammar is an inductive subject. The child is to study sentences just as he would study plants in botany; he is to make his own observations and come to his own conclusions. The teacher is to watch over him at his work; to keep him from going too far astray and wasting time; to place the proper material before him; and to incite him to action by suggestive questions and hints. The child should be required to give *examples* which he does not see in the *sentences*.

This is the most important thought the teacher and student can have with regard to the subject of grammar. It, and it alone, will do away with the formal grammar discussed in the June, July, and August numbers of THE INLAND EDUCATOR for 1896, and the title, "Science in the Teaching of English." The teacher must see and lead the children to see that the subject of grammar is the sentence; that the sentence is an instrument for expressing the thought; that it is in every way adapted to the expression of the thought and determined by the thought; and that all definitions, parts, cases, rules, etc. of the subject may thus be easily explained in the sentence.

This is the *laboratory method* introduced into grammar. For an explanation of this method and illustrations of its use in grammar, read the following:

1. THE INLAND EDUCATOR for March, 1896—the article entitled, "Science in the Teaching of English," p. 89.

2. "A New English Grammar," (Wisely) pp. 5, 7, 36. (The entire subject of grammar is worked out in this book according to the *laboratory method*.)

3. "Studies in the Science of English Grammar," (Wisely) pp. 3-6, 26.

On the other topics under "Steps," such as, grammar is an inductive subject, it is a reasonable or logical, or thought subject and not a formal or arbitrary subject, the thought determines the form or the form must be determined in the light of the thought, read the following references:

1. The articles entitled, "Science in the Teaching of English," INLAND EDUCATOR for October, 1895, p. 175; December, 1895, p. 299; January, 1896, p. 363; February, 1896, p. 31.

2. "A New English Grammar," (Wisely) pp. 4, 5, 24-38.

3. "Studies in the Science of English Grammar," (Wisely) pp. 4-6, 8, 16, 19, 26.

EDUCATIONAL INFORMATION.

C. M. McDaniel has been elected superintendent at Madison, Indiana, and has accepted.

E. E. Robey, Indiana State Normal, '96, is ward principal at Tipton, Indiana the coming year.

A number of the teachers at Columbus, Indiana, are in summer schools at Chicago, Winona and elsewhere.

Professor A. H. Yoder of Irvington, Indiana, has recently been elected president of Vincennes University.

Professor Robert J. Aley of Indiana State University will study in the University of Pennsylvania during the coming year.

Miss Alice Harper, principal of the Cory, Indiana, schools, is representing THE EDUCATOR in the institutes of Illinois and Indiana.

Superintendent J. N. Study, for many years in charge of the Richmond schools, has been elected superintendent at Fort Wayne, Indiana.

Superintendent A. T. Reid has accepted a position to travel for a publishing house during the coming year and will have his headquarters in Terre Haute.

Superintendent James H. Henry of Warsaw, Indiana, is principal of the Winona Normal School. He is assisted by Principal A. J. Whiteleather, of Knox, Indiana.

Superintendent and Mrs. Chas. F. Patterson of Edinburg, have just returned from a delightful trip through the East. Washington, Baltimore,

Old Point Comfort, Boston, New York and Philadelphia were objective points.

Superintendent T. A. Mott of Madison, Indiana, goes to Richmond as superintendent of the city schools. Mr. Mott was formerly superintendent of Wayne county.

The commencement exercises of the Central Normal College, Danville, Indiana, took place the last week in July. The address was delivered by A. M. Wagner, of Muncie.

Professor L. J. Rettger and family, who have spent the year abroad, have returned. Professor Rettger will resume his work in the State Normal at the opening of the Fall term.

School Education for its July and August issue has sent out a very handsome Child Study number. It is edited by Professors S. S. Parr and L. H. H. Galbreath and Miss Mary L. Gilman.

Superintendent J. A. Carnagey of Columbus, Indiana, has been in Chicago University during the summer, doing work in Child Study with Professor Earl Barnes, and in history with Doctor Terry.

A very successful summer school is in progress at Kokomo. The instructors are County Superintendent Miller, Superintendent C. L. Brown, of Irvington, and Messrs. F. F. Hummel and E. E. Robey of Kokomo.

Superintendent S. C. Hanson of Williamsport, Indiana, author of an excellent series of school music books, has been in Iowa during the past four weeks doing institute work at Council Bluffs, Avoca, and Carson.

Chas. Swain Thomas of the Indiana State University, was married to Miss Charlotte Thornton, at Bedford, Indiana, July 23. They have the best wishes of THE EDUCATOR. They will spend the coming year in Harvard.

The Highland Park Normal College, at Des Moines, Iowa, which has had so successful a career under President O. H. Longwell, has been purchased by J. B. Dille of Dixon, Ill. It is probable that the faculty will be reorganized.

The Starke County Normal will open August 10, at Knox, Indiana, and continue five weeks, closing with the county institute, commencing September 14. The instructors will be A. J. Whiteleather, J. H. Brickles, and Superintendent Sinclair.

Superintendent Quitman Jackson has announced his intention of going into the law at the end of his present term of office, and has formed a partnership with Attorney E. W. Felt of Greenfield. Mr. Jackson is one of the best superintendents in the state.

Superintendent R. A. Ogg of Greencastle, Indiana, has a farm in Greene county near Lyons. During each vacation Mr. and Mrs. Ogg go to this farm for recreation. Superintendent Ogg says that they room in a log cabin and board with the family on the farm.

Miss Helen Sanxay, principal of one of the ward schools at Madison, Indiana, died recently. We had heard a great deal in regard to Miss Sanxay and her work, and the world can ill afford to lose such teachers. She was regarded by every one who knew her as a gentle, pleasant, lovable woman, who made brighter the lives of all with whom she came in contact.

The Waterloo High School, Indiana, was awarded the World's Columbian Exposition medal and diploma for "careful work, good teaching and results." The teachers of this high school during the coming year are H. H. Keep, superintendent, and J. P. Bonnell, principal. The grade teachers are Misses Bertha Knott, Anna Deventer, Myrta Ball, Lulu Rempis, and Lizzie Dittman.

Professor Joseph Buchanan of Steubenville, Ohio, announces the meeting of the Jefferson County Teachers' Institute for August 24. He has been fortunate in securing as instructors Professor Rurick N. Roark, Professor of Psychology in the State College, Lexington, Kentucky, Professor C. S. Hoskinson, of the Zanesville High School, and Miss Lelia E. Patridge, of Philadelphia, author of the Quincy Method.

The corner stone of a new school building at North Judson, Indiana, was laid July 23. Appropriate ceremonies were conducted by the North Judson Lodge, No. 438, F. and A. M. Addresses were made by Hon. H. G. Thayer of Plymouth, and Superintendent W. B. Sinclair, candidate for State Superintendent, who is a member of that lodge. This building is a handsome eight-room structure, and will cost about \$12,000.

W. J. Davis, editor of the Sabine *Democrat*, at Many, Louisiana, is also superintendent of the county schools. In a recent issue of his paper Superintendent Davis has a valuable article contending for an appropriation by the state for carrying on county institutes. He shows that for every dollar appropriated by the state the Peabody Fund will add another dollar to aid in carrying on institute work. No state can do anything better for the profession than to make better its county institutes.

Superintendent Geo. R. Fish of Fulton county, Indiana, is doing a great deal for his schools by placing before the people from time to time some accounts of the educational system, and what it is doing in his own county. In a recent article he

set forth in a clear way the requirements of the common school system. Superintendent Fish is interested in keeping his schools to the front. A large number passed the examination, graduating from the district schools this year. He shows that each school in the county has started a library. Sixty sets of Young People's Reading Circle books were placed in the county last year, and over five thousand pupils were readers.

The recent death of Alexander H. McGuffey, will remind many teachers of the reader that they used when they went to school. These readers were largely prepared by Dr. W. H. McGuffey, brother of the one who has just died. One of Mr. McGuffey's students in speaking of him says: "Dr. McGuffey left the impress of his great learning and fine character upon many a man in the South. It was the writer's good fortune to be a student in the University of Virginia under him. He had such rare good sense, and was so profoundly learned, that drawing his illustrations from every source and with exquisite tact, he was the prince of teachers. He loved young men; loved to teach them and make them his companions. I can hear him say now as he often said to us: 'Young gentlemen, if I am doing you any good, it is in implanting within you seeds of thought which will be continually growing and bringing forth fruit.' He and his brilliant pupil, the late Dr. John A. Broadus, were, I think, the most effective preachers I ever heard."

State Superintendent Geeting will visit the following institutes:

AUGUST 3-7

Monday.—Laporte county.
Tuesday.—Parke county.
Wednesday.—Pike county.
Thursday.—Dubois county.
Friday.—Perry county.

AUGUST 10-14.

Monday.—Warrick county.
Tuesday.—Franklin county.
Wednesday.—Owen county.
Thursday.—Hendricks county.
Friday.—Kosciusko county.

AUGUST 17-21.

Monday.—Dearborn county.
Tuesday.—Orange county.
Wednesday.—Monroe county.
Thursday.—Cass county.
Friday.—Randolph and Adams counties.

AUGUST 24-28.

Monday.—LaGrange and Noble counties.
Tuesday.—Huntington county.
Wednesday.—Ripley county.

Thursday.—Sullivan county.
Friday.—Greene county.

AUGUST 31—SEPTEMBER 4.

Monday.—Wabash county.
Tuesday.—Lake county.
Wednesday.—Warren county.
Thursday.—Boone county.
Friday.—Fayette county.

SEPTEMBER 7-11.

Monday.—Madison county.
Tuesday.—Tippecanoe county.
Wednesday.—Fountain county.
Thursday.—Carroll county.
Friday.—Grant county.

SEPTEMBER 14-18.

Monday and Tuesday.—Starke county.
Mr. Cotton will visit Shelby, Bartholomew, Daviess, Elkhart, Marshall, Washington, Scott, Delaware and Blackford counties.

INDIANA STATE BOARD QUESTIONS FOR JULY, WITH DISCUSSIONS.

ARITHMETIC.

1. I can buy goods from A, B, C and D at the same list price, but A will allow me 20, 10 and 5 off; B will allow me 5, 10 and 20 off; C 10, 20 and 5 off; D 20, 5 and 10 off. Which will be the best purchase to make? Explain why.
2. Make concrete illustrations of the following problems:
 - (a) The minuend and remainder to find the subtrahend.
 - (b) The dividend, the quotient and the remainder to find the divisor.
 - (c) Two or more sets of numbers to find the difference of their sums.
3. What is meant by arithmetical analysis? Illustrate your meaning in the following: A man owning $\frac{1}{4}$ of a farm, sold $\frac{1}{4}$ of his share. What part of the whole farm had he left?
4. Illustrate, as to a pupil ready for the work, the division of 7315 by 35. Indicate clearly every step.
5. Bill:

Fort Wayne, Ind., January 9, 1896.

Robt. C. Bell,

Bought of John S. Irwin & Co.

150 bbls. Imperial flour at \$3.50

28 bbls. Orient flour at 3.25

214 bush. Wheat at55

300 bush. Oats at33

125 bush. Corn at28

Paid by check on First National Bank.

Write check, and receipt bill, made out in proper form.

6. What will be the cost of two joists 17 ft. long, 12 in. wide and 3 in. thick, at \$20.00 per M.
7.

Prin.	Rate.	Interest.	Time.	Amount.
\$2,000 00	$\frac{7}{100}$	\$28 75	7 yr. 6 mon.	?
?	$\frac{7}{100}$	?	6 mon. 24 da.	?
\$750 00	$\frac{6}{100}$	?	?	\$942 00

1. In any case, under the conditions, the purchase price is 68.4% of the list price. Hence, one offer is as good as another.

2. (a) A boy had 15 marbles, and, after giving away a part of them, he had 3 left. How many did he give away?

(b) A boy who had 28 marbles, wished to divide them among 3 boys, and yet keep 4 marbles himself. How many did he give to each boy?

(c) A had 5 apples, B 6, and C 3 apples. D had 4 apples, E 5, and F 2 apples. How many more apples had A, B and C together than had D, E and F together?

3. Arithmetical analysis is a process of solving problems in arithmetic without rules. If a man owned $\frac{1}{2}$ of a farm and sold $\frac{1}{4}$ of his share, he sold $\frac{1}{4}$ of $\frac{1}{2}$ of this farm or $\frac{1}{8}$ of it. Since he owned $\frac{1}{2}$ of it and sold $\frac{1}{8}$ of it, he had left $\frac{3}{8}$ of it.

4. $7315 \div 35 = ?$ 35 is not contained in 7,000 an integral number of times of the thousand's kind, but it is contained in 7300, 200 times with 300 over, $300 \div 35 = 8$ the new dividend. Now 35 is not contained in 31 an integral number of times of the ten's kind, but is contained in 315, 9 times. Hence 35 is contained in 7315, (200 plus 9) times, or 209 times. \therefore The rule for long division is evident.

5. The amount of the check is \$867.70. See any blank bank check, and any good text for form of checks and bills.

6. The cost is \$1.06 at \$30.00 per M.

7. Instead of "Prin., Rate, Int., Time, Amt.," the order should be Prin., Rate, Time, Int., Amt.*

Prin.	Rate.	Time.	Int.	Amt.
\$2,000	7	5 yrs., 6 mos.	\$770	\$2,770
\$1,416 $\frac{1}{2}$	7 $\frac{1}{2}$	6 mos., 24 da.	\$63.75	\$1,480 $\frac{1}{2}$
\$750	6	4 yrs., 3 mos., 6 da.	\$192	\$942

* This change should be made because the element of *time*, the *principal*, and the *rate* constitute the three factors of a product which is called *interest*.

GEOGRAPHY.

(Select No. 7 and any other five.)

1. To what extent should the study of geography be combined with that of history?
2. Why is the climate of Great Britain so much warmer than that of the parallel latitude of the United States?
3. Name in order the six principal seaports of the United States.
4. What very important trade is carried on by those living on Chesapeake Bay in which the whole country is interested?
5. What does modern geology teach us as to the true method of studying geography?
6. What is your judgment of the topical method of studying geography? Why?
7. Show how the study of *form, place, plants, animals, minerals, atmospheric phenomena, etc.*, may be made a profitable preparatory work for geography. What powers of the mind are developed in the primary geography work?

1. Geography is the physical basis of history. A very wide range of geography may be studied without direct reference to history. The purely physical portions, such as the origin of land forms, the nature and distribution of insolation, and the resulting conditions of movements of the hydrosphere and atmosphere, are more profitably studied as portions of physical science, without the distraction of effort at correlation with human affairs. When a good foundation has thus been laid, all these phenomena should be studied in relation to human culture. History furnishes the widest opportunity for such study and without it cannot be anything but superficial.

2. There are no parallel latitudes in Great Britain and the United States, the former being entirely north of the northern boundary of the latter. The question, therefore, is in form nonsense. The prevailing southwest winds which

blow the warm waters of the Gulf stream give Great Britain abnormally high temperature.

3. New York, San Francisco, New Orleans, Boston, Baltimore, Philadelphia.

4. Oyster culture.

5. The method of study by personal observation of actual features and processes in the field, and the habit of constantly seeking for the causes of things—*field work* and *scientific exploration*.

6. See INLAND EDUCATOR for July, Vol. II, p. 353.

7. These are the raw materials from which the science of geography is made. In primary work the aim should be to guide and improve the natural instincts and powers of children for observation of natural phenomena, to *open their eyes to nature*, to widen and make more exact their direct, personal knowledge of their environment. This kind of work should extend through all grades, but should be progressively combined with more and more of classification, explanation, and generalization.

SCIENCE OF EDUCATION.

(Any five.)

1. Define induction.
2. Give a clear example of reaching a general truth by the process of induction.
3. By what process does the child form the concept, *horse*?
4. If there is a natural procedure by which the child forms its new concepts, what influence should this fact have in determining the method of the school?
5. Give a somewhat detailed explanation of what you consider the true procedure in leading a child to form the true conception of a verb or an adverb.
6. What is the fundamental difference between induction and deduction?

1. Induction is the process of mind in arriving at general truths, or in establishing laws by the examination of particulars. It is procedure from part to whole.

2. Induction is experimental. Agassiz's laws in regard to glaciers; he made actual investigations of glacial action and based his laws upon what he noticed. The child learns in this way. The difficulty is to keep the child from generalizing from one particular.

3. By induction and deduction both. By induction in so far as the process is one of examination of particulars using comparison, analysis, etc.; by deduction in so far as the process is one of synthesis and the application of his conclusions to his experiences. He first sees the horse as something different from any experience he has had. When he sees horse number two, he sees it as like number one and also as different. In so far as he sees likeness in numbers one and two, he begins to put such things in the same class; the fact that these two manifestations of the same activity may be alike and different at the same time does not disturb him; both are necessary in his formation of the concept. The larger number of horses he sees the richer will his notion become.

4. The nature of the mind-process of the child in learning any subject should always determine the method of the subject. Of course, each subject will have its own method. Certainly the process of the child in forming new concepts should have large influence in determining the method of

the school. It would determine what subjects to teach; in what order they shall be taught; the order or organization of the parts of the subject, etc.

5. The sentence is the unit in language. Verbs and adverbs mean nothing except as they are used in the sentence. In teaching a true conception of any part of speech the child should be led to discover, by the study of sentences in which the part of speech is used, the distinctive office of the part of speech. Sentence after sentence should be brought before the child showing all the conditions under which this part of speech may be used, and all the functions it may perform. In this way, each new example is fixing the distinctive office of the part of speech, and at the same time enriching the child's notion, so that he will be able to recognize it wherever used. In this work the child should be led to discover these uses himself.

6. Induction examines particulars and establishes laws; deduction assumes laws and examines particulars in the light of them. Induction and deduction go hand and hand in real experience.

GRAMMAR.

"How e'er it be, it seems to me,
 'Tis only noble to be good.
 Kind hearts are more than coronets,
 And simple faith than Norman blood."

1. Select the clauses in the first sentence. State whether they are principal or subordinate clauses. 10%
2. Select the entire predicate of each clause in the first sentence. 10%
3. What do "noble" and "good" modify? 10%
4. How is "coronets" used? How is "faith" used? 10%
5. Select the clauses in the second sentence. State whether they are principal or subordinate. 10%
6. Write a composition of 200 words on subject selected by the County Superintendent. 50%

1. The first clause is the words, "Howe'er it be." It is a subordinate clause. The second clause is the words, "it seems to me," and it is a principal clause. The third clause is the words, "'Tis only noble to be good." It is a subordinate clause.

2. The entire predicate of the first clause is the words, "How e'er;" the second, the words, "'true' to me;" of the third, the words, "only noble." The word, "true," or "right," or some such word is understood with the words, "to me," in the predicate of the second clause.

3. The word, "noble," is an adjective, used as the principal part of the predicate of the third clause. The word, "good," is an adjective, used in the predicate with the infinitive, "to be."

4. The word, "coronets," is the subject of the verb, "are," understood. Some grammarians consider the word, "than," a preposition in such a sentence as this. The word, "coronets," would then be the principal part of the prepositional phrase. The word, "faith," is the principal part of the subject of the second member—the word, "is," being understood.

5. If the word, "than," be considered a preposition, there are just two coordinate, independent clauses in the sentence: first, the words, "kind hearts are more than coronets;" second, "simple faith is more than Norman blood."

If the word, "than," be considered a subordinate conjunction, the sentence is compound-complex. The members are given above: Each member contains a subordinate clause: first, the words, "than coronets (are);" second, the words, "than Norman blood (is)."

ALCOHOL AND NARCOTICS.

1. What relation does the percentage of sugar or starch in any fruit juice bear to the amount of alcohol which can be produced from that juice by distillation?
2. How does overdrinking of alcoholic stimulants produce the terrible sickness of stomach which so often occurs in such cases?
3. What causes the peculiar and fearful hallucinations in "Delirium Tremens?"
4. Tobacco is known to act more directly upon the energies of the nervous system than upon its structure: why is this insidious evil the greater?
5. How is forced exercise, especially by walking, beneficial in opium poisoning?

1. The amount of alcohol which can be distilled from any fruit juice depends directly upon the amount of sugar or starch in that juice. On this subject, Gustafson in his "Foundation of Life," page forty-one, makes this statement: "As alcoholic fermentation is a saccharine fermentation, * * * it follows that all organic substances in a certain proportion to their saccharine contents, may be productive of alcohol."

2. The overdrinking of alcoholic stimulants produces the terrible sickness of the stomach by irritating the mucous surface of the stomach for such a long period. A small drink will not usually produce sickness of the stomach, because a small quantity causes a copious flow of gastric juice which dilutes the alcohol, thereby lessening its irritating effect, and it is quickly absorbed into the blood.

3. Dr. N. S. Davis of Chicago, probably the best authority in this country on such questions, gives the following clear statement of the first steps leading up to delirium tremens: "Every individual whose brain is in its natural condition has frequent sensations, impulses, or exciters of mental action which he promptly inhibits or disregards. It is on the proper development of this mental inhibition that every person's self-control and sense of propriety depend. If these psychological facts are kept clearly in mind, we shall be able to interpret more correctly the influence of both small doses and large doses of alcohol on the human system. Thus, a moderate dose circulating in the blood, by directly diminishing the sensibility of the cardiac and vaso-motor nerves, immediately lessens the tension of the blood-vessels, allowing them to dilate, and by simultaneously lessening the sensibility of the cardiac inhibitors, allows the heart to beat faster; but the efficiency of the circulation is diminished in proportion to the vascular dilation and the cardiac frequency. At the same moment, the presence of the alcohol is diminishing the sensibility of the cerebro-spinal nerves of ordinary sensation, and consequently, the individual is less conscious of cold, heat, pain, weariness, weakness, or even of his own body weight; not because the alcohol either warms or cools or strengthens, as is popularly supposed, but simply, because it diminishes the sensibility of the nerve channels through which all sensations or impressions are conveyed to the seat of consciousness in the brain. At the same time, the alcohol

in the same moderate dose is so far diminishing the sensibility of the mental part of the brain itself, as to impair both the acuteness of mental impressions and the mental inhibition; thereby imparting a feeling of ease, lightness and lessened self-control, that makes the person feel as though he could move with less resistance, and accomplish more in less time than before he took the alcohol. It is exactly this cerebro and nerve sensibility produced by a very moderate dose of alcohol, which inclines the individual to talk without reserve, sing songs, dance, or fight, in accordance with his surroundings, that make both him and his friends think the alcohol a stimulant. Yet, give him another dose of the alcohol and diminish the sensibility of his nerve cells and fibers a little more, and he still thinks he could do more and do it faster, while the greater loss of self-control and muscular coordination renders him incapable of either walking or talking with steadiness. Give him another dose and he soon sinks into a state of complete anaesthesia with neither muscular power nor mental consciousness. The process from beginning to end is one of progressively diminished nerve sensibility and action, with no stage of increased force, either physical or mental." On the same subject Dr. Mason says: "In acute alcoholic delirium, optical delusions are present, and these are readily misconstrued by a disordered intellect into all kinds of forms and fantasies, horrible or grotesque. There is perversion of hearing, and natural sounds receive undue importance, and are readily misinterpreted by the delirious person. Perverted tactile sensation gives the belief that insects are crawling over the body." Gustafson sums up the causes in the sentence, "The nervous system becomes so paralyzed that correct communication between the mind and body cannot be carried on."

4. The truth of this statement is seen in the stunted growth of children who smoke cigarettes. The greatness of the evil lies in its insidiousness or deceptiveness. It does not show its effects as plainly as does alcohol and is, therefore, thought by the majority of people to be well-nigh harmless.

5. Forced exercise is beneficial in that it arouses the patient from his stupor, makes his heart beat stronger, makes him inhale deeper, and thus gives the system an opportunity to throw off the poison.

READING.

(*See No. 7 and any other file.*)

1. What are the two phases of reading when considered as a process?
 2. In studying a selection, which do you consider first, "the getting of the thought" or "the expression of it"? Why? Is there any choice here?
 3. What is the purpose of oral reading?
 4. What is the "word method"? The "sentence method"? Which do you prefer? Why?
 5. What basis for reading has the average child when it enters the school-room at six years of age? Show clearly how a knowledge of this basis will aid the teacher in this subject during the first two or three months.
 6. Define *theme*, *purpose*, *embodiment*.
 7. Discuss the reading work as outlined in the State Course of Study for the first year.
1. Reading may be considered as a process of expression or a process of thought, giving rise to the two terms, *oral* and *silent* reading.

2. The getting of the thought is the first thing in the study of a selection. This is the thing to be expressed and its acquisition must, therefore, precede its expression. There is no choice here.

3. The purpose of oral reading is the complete vocal rendering of the content of a selection. It indicates to the teacher whether or not the pupil has mastered the selection, in addition to conferring certain graces; such as, distinct enunciation, easy position, self-possession, etc.

4. "Word method" names the device for teaching reading which begins with the word as the unit, while "sentence method" begins with the sentence as the unit. Neither of these so-called methods is satisfactory in itself; the most satisfactory plan being, perhaps, a combination of all the "methods." If choice is confined to these two, experience has shown that the word method is the simpler.

5. The child has a "store of facts, ideas, and images—that is, of knowledge," and "a store of language capable of expressing measurably these ideas, facts, and images." The teacher's first work in reading is to make the child master of the printed symbols which represent various ideas familiar to him. To know what the child knows and is interested in gives the teacher the key to the proper method of procedure.

6. By *theme* is generally meant the idea that gives unity to a piece of literature; by *purpose* what the selection accomplishes, generally measured in terms of effect upon the reader; by *embodiment*, the concrete form in which the meaning of the selection is set forth.

7. See *State Manual* and the introductory suggestions in the *Indiana First Reader* for more complete discussion than can be given here.

PHYSIOLOGY

(*Any file.*)

1. Define anatomy.
2. Explain the functions of the epidermis.
3. What are the three essential parts of an organ of special sense?
4. Describe the structure and function of the iris. What is the function of the vitreous humor?
5. What are general sensations?
6. What is meant by coordination?
7. Describe the cerebrum.

1. Anatomy deals with the structure of the body, and the forms, connections and mode of growth of its parts.

2. It forms a protective covering, serves as a sense-organ, plays an important part in regulating the temperature of the body, and aids in carrying off the waste products from it.

3. (a) One or more *end organs*, which are highly irritable tissues, so constructed and so placed as to be normally acted on by some one of the modes of motion met with in the external world. (b) A brain-centre, and (c) a sensory nerve-fibre connecting this with the terminal apparatus.

4. The iris is a continuation toward the front of the second or choroid coat. It forms the colored part of the eye which is seen through the cornea. In the iris are two sets of plain muscular fibres; a circular around the margin of the pupil and narrowing it when they contract; the other set radiate from the inner to the outer margin of the iris and by their contraction dilate the pupil.

The vitreous humor is one of the refracting media of the eye.

5. General sensations are those resulting from

THE INLAND EDUCATOR.

[illegible][illegible][illegible][illegible]

1. The first step in the process is to identify the problem. This involves gathering information about the situation and understanding the needs of the stakeholders involved.

[illegible]

The first of these is the fact that the
 The first of these is the fact that the

It is not clear whether the results of this study can be generalized to other populations. The study was conducted in a single center and the sample was relatively small. The study was also limited by the use of self-reported data, which may be subject to recall bias. The study was also limited by the use of a single measure of social support, which may not capture all aspects of social support. The study was also limited by the use of a single measure of life satisfaction, which may not capture all aspects of life satisfaction. The study was also limited by the use of a single measure of perceived social support, which may not capture all aspects of perceived social support. The study was also limited by the use of a single measure of perceived life satisfaction, which may not capture all aspects of perceived life satisfaction. The study was also limited by the use of a single measure of perceived social support, which may not capture all aspects of perceived social support. The study was also limited by the use of a single measure of perceived life satisfaction, which may not capture all aspects of perceived life satisfaction.

... ..

...the fact that the ...

1. *Chlorophyll a* (Chl *a*)
 2. *Chlorophyll b* (Chl *b*)
 3. *Chlorophyll c* (Chl *c*)
 4. *Chlorophyll d* (Chl *d*)
 5. *Chlorophyll e* (Chl *e*)
 6. *Chlorophyll f* (Chl *f*)
 7. *Chlorophyll g* (Chl *g*)
 8. *Chlorophyll h* (Chl *h*)
 9. *Chlorophyll i* (Chl *i*)
 10. *Chlorophyll j* (Chl *j*)
 11. *Chlorophyll k* (Chl *k*)
 12. *Chlorophyll l* (Chl *l*)
 13. *Chlorophyll m* (Chl *m*)
 14. *Chlorophyll n* (Chl *n*)
 15. *Chlorophyll o* (Chl *o*)
 16. *Chlorophyll p* (Chl *p*)
 17. *Chlorophyll q* (Chl *q*)
 18. *Chlorophyll r* (Chl *r*)
 19. *Chlorophyll s* (Chl *s*)
 20. *Chlorophyll t* (Chl *t*)
 21. *Chlorophyll u* (Chl *u*)
 22. *Chlorophyll v* (Chl *v*)
 23. *Chlorophyll w* (Chl *w*)
 24. *Chlorophyll x* (Chl *x*)
 25. *Chlorophyll y* (Chl *y*)
 26. *Chlorophyll z* (Chl *z*)
 27. *Chlorophyll aa* (Chl *aa*)
 28. *Chlorophyll ab* (Chl *ab*)
 29. *Chlorophyll ac* (Chl *ac*)
 30. *Chlorophyll ad* (Chl *ad*)
 31. *Chlorophyll ae* (Chl *ae*)
 32. *Chlorophyll af* (Chl *af*)
 33. *Chlorophyll ag* (Chl *ag*)
 34. *Chlorophyll ah* (Chl *ah*)
 35. *Chlorophyll ai* (Chl *ai*)
 36. *Chlorophyll aj* (Chl *aj*)
 37. *Chlorophyll ak* (Chl *ak*)
 38. *Chlorophyll al* (Chl *al*)
 39. *Chlorophyll am* (Chl *am*)
 40. *Chlorophyll an* (Chl *an*)
 41. *Chlorophyll ao* (Chl *ao*)
 42. *Chlorophyll ap* (Chl *ap*)
 43. *Chlorophyll aq* (Chl *aq*)
 44. *Chlorophyll ar* (Chl *ar*)
 45. *Chlorophyll as* (Chl *as*)
 46. *Chlorophyll at* (Chl *at*)
 47. *Chlorophyll au* (Chl *au*)
 48. *Chlorophyll av* (Chl *av*)
 49. *Chlorophyll aw* (Chl *aw*)
 50. *Chlorophyll ax* (Chl *ax*)
 51. *Chlorophyll ay* (Chl *ay*)
 52. *Chlorophyll az* (Chl *az*)
 53. *Chlorophyll aza* (Chl *aza*)
 54. *Chlorophyll abz* (Chl *abz*)
 55. *Chlorophyll acz* (Chl *acz*)
 56. *Chlorophyll adz* (Chl *adz*)
 57. *Chlorophyll aez* (Chl *aez*)
 58. *Chlorophyll afz* (Chl *afz*)
 59. *Chlorophyll agz* (Chl *agz*)
 60. *Chlorophyll ahz* (Chl *ahz*)
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Their lack of attention to the fact that we are living through their efforts are great errors in the development of history. We study the lives and work of these individuals in biographies, we may observe the life of some individual living in our own neighborhood, country, state, etc.

These social lives are simpler, and easier understood, and for this reason more interesting to students, and more profitable for them to study than the lives of great groups of individuals taking part in a nation. The history in the early grades must largely deal with individual lives, and with those men and women building up states, or a business life and the like.

By "institutions and ideas" in history is meant those ideas which grow out of man's nature, and express themselves in institutions,—as the church, the state, the school, the business world, the social world.

3. The immediate areas which led to the settlement of Khash Island were:

3. A very strict, intolerant religious system in Massachusetts.

A further criticism of this system by
W. J. H. H.

For this confession, Williams was com-
pelled to leave Massachusetts.

4. Williams, likewise, declared that the Indians had been dispossessed of this land un-
lawfully by the early Massachusetts settlers, which
raised questions of title.

Dr. Williams settled in Rhode Island, probably because it was near other New England settlements, and because the Indians there were friendly to him.

2. The principles of Williams and Penn were essentially the same; they both believed in the freedom of religion—which meant the separation of church and state.

6. The history work in the first six grades in the state course of study comprises these essential ideas:

History in the primary grades should be taught largely through the study, and therefore justifying United States history in the early grades, study of through the biographies of some of the men who early helped to make it.

Advances in the field carry along with them the geography work such work as will help the child see the gradual growth of institutions, and study simple maps of institutions in the early grades.

Gradually feed the child in such his-
tory that as will best develop his character.

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1. The first step is to identify the problem. In this case, the problem is that the company is not making enough profit.

As a result, the article has become a source of confusion and the

substantiate and the book, in addition, is the most substantial and essential in spiritual. Exploring such views.



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THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

SEPTEMBER, 1896

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A JOURNAL FOR THE PROGRESSIVE TEACHER.

VOL. III.

SEPTEMBER, 1896.

No. 2.

TEACHING AS A PROFESSION.

• SUPERINTENDENT WELFORD D. WEAVER.

THE school year of 1896-97 is almost at hand. In this great commonwealth of ours, there are hundreds of young men and young women who are about to assume the duties and responsibilities of teaching for the first time. Many of these inexperienced workers, I imagine, are readers of this educational magazine. There are thousands of others, not novices in the school room, but tried workers, who will also take up anew the great work of the teacher. Many of these, I know, are reading the pages of this magazine as well as the pages of other professional papers and periodicals. In trying to decide what is timely for this somewhat heterogeneous mass of readers, there is one theme which has seemed to the writer more fitting than any other for this season; and it is Teaching as a Profession.

For the discussion, we should forget that we are teachers or expect to be teachers, and that we know anything very definite about the work. Let us lay aside our prejudices, pro or con, and pursue the investigation with the seriousness of one who is going to shape his life-work by the results obtained. Assuming such a condition, the first and most natural of all questions will be,

WHAT IS TEACHING

as distinguished from other employments? A moment's thought reveals the fact that men are very diverse in their work. For the sake of convenience, labor has been

roughly classified, and some of the more prominent divisions are occupation, trade, office, calling, and profession. Is teaching to be found in this list, and if so, where?

Is teaching an occupation? One of the best definitions for occupation is, that "it is any selected employment by which a man habitually earns money for the sake of a living." Apply this definition to the ends required in education, as produced by teaching, and it will not do to class teaching with occupation. Teaching must be something more than a means by which men and women make money. It is a sorry fact to declare, that many do not see more in the work than to make it a means to such an end, and that there are many real teachers in commercial life who are simply there because they can make more money in business than in the school-room. If one can read the signs of the times aright there is a conflict, already on, between those who would rank teaching so low and those who desire to raise the standard higher—between those who do not want it to be a mere occupation and those who are content to simply work and draw their salaries from public funds when they could not, in any other line, receive half so much money, nor retain their positions a month as clerks, if they were not more successful as clerks than they are as teachers. No; teaching is not an occupation, and to so state it is to undervalue its true purpose.

Is teaching a trade? Trade, in the sense used here; is to be taken as a commercial industry with all that implies. This is a larger conception of life than that of occupation, for it has in its meaning not only the idea of mere existence but suggests the accumulation of money. In its final purpose, there is no difference in kind from that of the final purpose in occupation. The only difference is in degree, the latter condition meaning more than the former. There is nothing in teaching, implied or suggested, fancied or real, in dream or in fact, that will allow us to classify it among those pursuits of men which are followed for the sake of the competence yielded. While all of this is true, I venture to make the matter a personal one and ask each of my readers: Why are you a teacher, and what is the controlling purpose of your life? Are you teaching for the competence or for the child?

May we call teaching an office? If so, we must say that the teacher is elected by the public or appointed by their representatives, and for his services receives public honor and money. A part of this is true. It is also true that this office idea of the teacher prevails more or less extensively in the public mind, and as a result, the school system is dragged into politics in the selection of trustees, school-boards, superintendents, and teachers. The average office-holder is nominated and elected to office with no special fitness or qualifications for that particular work, while the teacher must have a natural, as well as a trained fitness for his work. The one is elected, not upon merit but upon influence, while the other must win and hold his position simply because he can do the work better than the other person. The office-holder is the shrewdest and best party worker, and, as a result, receives the political loaves and fishes; while the teacher holds his position so long as he does not slacken his energy and professional enthusiasm. There is nothing, as I see it, to call the work of teaching an office.

Is teaching a calling? "A calling is the employment in which a man engages because he thinks it is predetermined by aptitude, sentiment or duty." Art and literature are good illustrations of this class of work. Either suggests a bent of mind peculiarly fitted by nature for a specific end. A calling may be abused, degraded, and reduced to an occupation on the part of some, but this does not disguise the fact nor abolish it, that there are those gifted through endowment for specific ends rather than by any training. While there must be a certain natural endowment required for the true teacher, there is a distinct training that the painter or writer does not require. To be more specific, the distinction we may make in favor of persons pursuing a calling rather than other employment, is that they are furnished more completely by nature for that particular work than are others who follow another kind of work. A teacher must have both natural endowments and scientific training. Teaching is not an occupation—not a trade—not an office—and not a calling, though there might be found on close analysis a strong element of each in the work.

Shall we say that teaching is a profession? Test this as we have tested the others. Law, medicine, and theology are everywhere recognized as among the great professions. There are common, distinguishing characteristics which may be found in these employments of men which entitle their bearers to be called professional. I can do no better in conveying this idea than to employ the thought of a distinguished educator along the same line. Professional knowledge has, at least, three common elements. The first is that this kind of knowledge must be specific. To a certain point in education the lawyer, the physician, the minister are educated like all others in the community. But there comes a time in their training when their lines of education diverge. One studies his *Materia Medica*, another Hebrew vowels and theology, another his *Blackstone*.

From this time their paths of knowledge and study separate, and each follows the particular kind of knowledge that will best qualify him for his special work. The second distinction of professional knowledge is that of its being scientific. The blacksmith knows how to shoe a horse but does not know the why of the operation. He is competent to nail the shoe upon the horse's foot but cannot explain the philosophy of the operation. To shoe a horse is one grade of knowledge, and to be able to explain the principles involved in the operation is another and much higher grade of knowledge. The first involves principally dexterity of hand and is reasonably easy to secure, while the second operation involves a knowledge of the processes and underlying principles which are obtained with great difficulty. The third distinction of professional knowledge is that it is so difficult to obtain that but a few care to pay the price. Any one of the three professions just named may be justly called a monopoly, for it has in its exclusive possession a body of invaluable knowledge necessary for the well-being of all.

If we test teaching by these principles what do we find? I have said that professional knowledge is scientific in character; that it is a knowledge of laws, principles, and processes. The physician knows the parts, the complete organism of the body and the relation of part to part and of each to the whole. Should there be disease or disorder of the body, by his knowledge of relations, laws, and principles, the physician is able to locate the trouble, give reasons for the disturbance, anticipate consequences, and apply proper remedies. He is able to apply means to an end. In teaching, is there anything which corresponds to this? Has the teacher any body of knowledge to which he may as surely go as has the physician? Is there a science of mind to be studied and known as there is a science of body? While this truth has been a long time in making itself prominent, every thinker recognizes that the great psycholog-

ical laws, principles, and doctrines are as certain as the laws of matter. With such a truth there must necessarily follow a science in application, or, in other terms, a scientific knowledge necessary for correct teaching. The remarkable thing about it all is, that every one has accepted without question that scientific knowledge is essential to the practice of medicine, the preaching of the gospel and the pleading of law, but never expected of the teacher the same requisite. Any one seemed to be good enough to teach school. If a man failed in business he could teach school. If a young man had poor health and was unable to do a vigorous day's work in other lines of work he could teach school. If a young woman wanted to earn a little money for herself to get a wedding outfit she would teach two or three terms. If a young man could find nothing else to do during the winter he would apply for the position of teacher. It makes one almost groan to think that this has been the case in other years, and even now we are far from being rid of its pernicious influence. It is, indeed, a welcome sign of progress to find elaborate courses of study of mental and spiritual phenomena in colleges, state normal schools and universities, especially for the teacher. A knowledge of mind and its operations, with its laws and principles, is being recognized everywhere by the foremost educators as essential.

Is there special knowledge demanded by the teacher as in the case of the lawyer, physician, and minister? No one would call a young man or woman just graduated from the high school or college to amputate a limb or treat a case of typhoid fever, without some previous knowledge of surgery or fever together with the proper kind of treatment. It is just as absurd to expect another person directly from school, with no special training, to teach properly; the ignorance of the one is equal to the ignorance of the other. The public asks of the young aspirant for medical proficiency that he be thoroughly acquainted with the human

body, that he shall know the value of drugs, and that he be able to make an intelligent application of the remedy to the disease. The teacher must not only have the special knowledge of the laws and principles which govern mind, but he must have a definite knowledge of the individual study, so that in the process of teaching there shall be an intelligent application of pedagogical principles. If we compare teaching with law or with theology in the same way we would find the same striking parallelism. The four employments are alike in the urgent necessity of special knowledge on the part of the operator before highest achievements can be accomplished. The third feature of professional knowledge remains to be applied. Professional knowledge is difficult to obtain. It requires time, patience and energy. Does not this hold true in the field of psychological investigation? Here, too, proficiency requires exacting labor, much time, and large amount of patience. If exacting demands are made upon the candidate before he can become a physician; if similar qualifications are required before a man can properly plead at the bar of justice; if to be a strong and efficient minister necessitates this laborious, painstaking preparation, is it not just as fitting to make similar demands upon the one who proposes to undertake the culture of the entire man? The same reason and common sense which requires a special preparation in the three would require it in the fourth. In my use of the term teaching, I have had constantly in mind the work, not as ordinarily passed as such, but such work as is based upon special knowledge, scientific in character, and requiring special training; the sort of work that is held up as professional by the foremost educational leaders at home and abroad. Having defined what professional teaching is, I want to mention some of its distinctive features.

NOT FOR SHOW.

There is one peculiarity of the teacher's

work worthy of mention. With the importance rightfully attached to education, it is seldom that teachers make the distinguished reputation that members of other professions do. This cannot be attributed to the fact that men in other callings are more brainy, more progressive, and are so far beyond teachers in general matters that they deserve this distinction, but the real reason lies in the nature of the work done by the teacher. The real teacher's work is something that cannot be counted or weighed or measured, but is confined to the forming of the invisible, and the giving of power to the unseen. When the surgeon has performed a delicate and difficult operation, something has been done which the mass of mankind can see, and in a measure appreciate. When the man at the head of a great nation successfully pilots the Ship of State through a great national crisis, he is applauded everywhere, because men can see what has been done. A definite result has been accomplished. The orator or minister, may, by a single address, rise to the very topmost round of popularity, because men can read and hear the words which have come from a soul burning with great thoughts. The teacher never so comes before the public notice. His work is continued, year by year, in silence and alone. The results of his teaching are largely concealed, and many years will pass before the results will be appreciated, and then, only possibly as reflected by the life of the former pupil. Such effects cannot be measured by popular applause as is the musician encored. While the teacher is denied popular and immediate recognition, there is some compensation in the fact of knowing that there are some, in every community, who are watching the silent work done in the school-room. The greatest forces of nature and society are those which work on and on in silence. While teaching is far from being a dress parade affair, or holiday fun, or a work that is calculated to give renown to its devotees, yet, when one is classed with such as Soc-

rates, Seneca, Pestalozzi, Arnold, Mann, Agassiz and Harris, he ought to be satisfied, for these are some of the choice spirits who have given grace and grandeur to humanity. To be a true teacher is to stand to-day among those who are in the very foremost ranks of human progress. It is the teacher who is sounding the depths of human philosophy, who is verifying the facts of science, who is analyzing history, who is probing mind, who is investigating matter, who is searching man, who is reaching up towards the Infinite in mind and character. Who dares to lightly value such a work as this, though he does not receive the plaudits given to statesmen, or the glory accorded to warrior, or the honor received by the pulpit?

TEACHING IS CONSERVATIVE.

Society has set three classes of persons to conserve its interests. It is necessary that the experiments and results of the best living of all the past be preserved, analyzed, and embodied in laws. This enables society to know what is permissible and also indicates what should not be done. To do this, as well as to gather up the new results of living from day to day, is given to the fraternity called lawyers. It is their business to settle the intricate questions, daily arising from the complex life of to-day, in the light and experience of all that has gone before.

But the preservation of the laws and experiences of men which result in government, is not the most precious thing which society wishes to be perpetuated. Mankind has always realized that there is a great need of a distinct recognition of the insight of the wisest men and seers "into the nature of the Great Power which is creating and governing the world." This sort of human knowledge is the basis of human conduct and life without which humanity cannot progress. That it may be properly cared for, society has set apart selected persons and consecrated them to the high purpose of preserving, in purity, the oracles of God

and imparting them to men. The teachers of religion are the most conservative element in society, and certain woe and calamity will surely come when such conditions are not sustained. Society thus entrusts peculiar doctrines to the lawyer for safe-keeping and inculcation and illustration, and a different set to the care of the clergy; there is still a third class, which she gives into the hands of the public school teacher, of vast moment to the welfare of the community. The teacher's realm lies in the childhood of the community. It opens new provinces of habit and knowledge for the child to enter and possess. In the discipline of the school and the equality of privileges among independent equals, the boy acquires a training for civil life which is essentially practical, and becomes a very potent factor in all after life. It is not enough that a pupil have a theory of what constitutes good behavior, be that theory never so good, it is necessary that he formulate that theory into habits of regularity, punctuality, silence, order, industry, under the skillful direction of a competent teacher. I often feel that teachers do not fully appreciate the value of this function of education which has so much to do in the future advancement of the pupils, in larger ideas of civics and ethics. The purely intellectual part of the teacher's work serves the interests of society directly. Family life and outside associations do much to enlarge the scope of the child's mind, yet it is reserved for the teacher to grapple specifically with knowledge, and lead the minds of the children out into greater mental activity. We teach the fundamental branches as though they contained the concentrated wisdom of the world; and there is good reason for this mode of procedure. "The studies and discipline of the school, open the windows of the intellect on all points of the horizon of human existence." Society needs citizenship, it needs this mental training in the children, that the man and woman shall have the largest sweep of freedom and power. No organization does

this but the work of teaching in the public schools. It is for this reason that the schools exist, and are so generously supported by the great mass of the people. Teaching thus becomes one of the conservative factors of society. It stands side by side with law and religion in sustaining and advancing the highest interests of humanity.

DIGNITY.

The profession of teaching is one of great dignity. While it is not necessary to grow effusive in this strain, yet it must not be forgotten, that often by the very commonness of our great and essential blessings, their high value and worthy dignity are passed by the unthinking. Teaching is one of such things. The worth of a thing to us depends upon our ideas of its importance and necessity. It is entirely possible that the primary teacher, in some obscure school, may exalt her work more highly than the president of some great college, because the former brings to her work higher ideas of its importance than the latter does to his. The teacher of a country school, who inspires a boy or girl to go to college, has done a much greater work than the professor who merely hears a student recite. He who is an awakener of thought, an inspirer of ideas, is of far more consequence than those who stuff the minds, as our mothers stuff the thanks-giving turkey. The mission of the public school teacher is to discover and awaken possibilities which the college and university shall culture in after years. To do such work as this gives a field of action for the best brain, the largest heart, the broadest play of common sense; and when this is being done can there be anything but the very highest dignity connected with it?

This dignity is intensified when we see the relation of teaching to the welfare of the state. We cannot ignore the great influence of the college and university, in broadening and deepening the mental lives of those brought within their walls, but of vastly

more importance is the influence of the public schools upon matters of state-craft. Good teaching in these schools leads up to the higher institutions. Good teaching opens the windows of the souls of the children that the light from afar may gleam in and reveal new sources of knowledge for a larger play of the mental activities. To be directors of such a work, guiding an awakening intelligence, and as a result, helping more than any other force to decide the future character of the state, is worthy of the choicest ability and art of the men and women of any age.

The mission becomes one of still greater worth and dignity when we consider what it is worth to us personally. There is an idea abroad that teaching is narrowing in its effects upon the teacher—that it cramps his energies and fetters his free growth so that he cannot rise to the highest degree of power while teaching. I am sorry to say that in many cases this is true. In meeting this objection, I would like to interrogate other phases of human activities. "There is no small work when one sees interrogation points all about it. Motherhood most develops womanhood, because it touches, with its greatness and duties, every part of woman's nature. It cultures not only the mother, but the woman more than the mother. When one sinks his manhood in his work, then he is a poor workman. The preacher who does not expand his manhood through his clerical work more than the preacher in him, is a poor preacher. The carpenter, in the making of houses is only a machine, not a man, if the work of construction does not make a broader man of him." Teaching should and will teach the teacher much more than he can ever hope to teach his pupils. Every honest work is worthy of being done without pay because of its results upon him who does it. Teaching is not a mere service of the state, though much good in that direction comes from it. It is not merely to awaken and inspire thought, though that is the ordinary conception of its pur-

pose. It is to reveal high thinking, broad, generous living, warm-hearted manhood and womanhood. The living teacher, though he may remain in one room for a generation, will, like one of the forest trees, grow—grow higher and deeper and richer in his manhood each succeeding year.

That which uplifts and enriches my manhood and your manhood is worthy of great consideration.

HINDRANCES.

It would seem, if all that I have said be true, that there should be no lack of high minded and worthy teachers. But the facts do not accord with the proposition. There is still a dearth of true teachers and there is still too low an estimate in the popular mind of the qualifications requisite for a school teacher. The public has long accorded special fitness for other professions, and its tardiness in demanding the same for the work of teaching is due largely to the attitude of the teachers themselves. I think that teachers are not attaching sufficient importance to the work. When their ideal changes the public will change in like manner.

Another great hindrance to the profession is that so many persons teach but a short time. They have barely had time to get initiated when they leave and other inexperienced persons must step in and repeat their blunders. It will be easily seen that such constant shifting, of necessity, makes very imperfect schools and brings the entire profession into more or less discredit. Every teacher who has his work at heart and believes in its importance should and will use all honorable means to discourage persons who are entering the work for the present only.

It is a deplorable fact that the teacher's position does not always depend upon merit. The position is held because of a rich uncle or influential relation, because of membership in a popular church, or because it happens that a certain political party is in control of affairs. Many a worthy person

has had to bow and retire before such a condition. I am glad to state that I believe this is rapidly disappearing. When personal merit and fitness are disregarded in the selection of teachers or their retention there can be no high standard of work expected. Teachers should sharply discriminate and draw clearly the line between amateur and professional skill. Were the teachers to rouse themselves and demand better qualifications of themselves, it would not be many years before trustees, school-boards and patrons would recognize the difference between the quantity and quality of work done by those who are thoroughly prepared, and those with no preparation. Were such a distinction established the tenure of office, amount of wages, and length of term would take care of themselves.

Coupled very closely with this thought is the vast amount of incompetent teaching done by youth, inexperienced and untrained. This is one of the most serious, disturbing and demoralizing influences that the teaching profession has to contend with. Not that these incompetent persons engage in this work for the purpose of wrecking these great interests; on the contrary I concede to them the very noblest of purposes possible, but as there has been no correct ideal or training how can there be correct results? The standing miracle to me is that the children get along so well with such unfavorable conditions.

Another hindrance is found in that school matters are not always in the hands of school men. Not unfrequently are teachers hampered or restricted in their work by resolutions passed, rules adopted or books selected by those who are not sufficiently acquainted with the needs of the schools. A most excellent illustration of this is found in the person of a member of the board of education of Washington, who objected to consulting teachers regarding text-books on the ground that it was not dignified for employers to consult those they employed. Such a spirit among those who hold educational

interests in their hands can but be a hindrance to professional advancement and the growth of the schools in their care.

Thus far nothing has been said about wages paid the teacher. "The wages paid by the community for teaching in our public schools," says a noted educator, "are ample, prodigal in some cases to youth and inexperience. They are scant and inadequate to age and experience. But, save exceptionally, supply governs price. Since the public—the demand, is satisfied with youth as a teacher, and the supply of youth for teaching is so abundant that every school-board is worried with an excess of applicants that will inevitably fix the teaching wage, and the basis of it will be the youth's wage. Men and women who give their lives to teaching must confront this disheartening fact." It is a great injustice that men and women who love teaching and who have consecrated their lives to the study of a science which is so delicate, and which contains possibilities so momentous, should be compelled to contend with a beardless youth fresh from college, or with one whose sole qualification for the great position of teacher is that she is the sole support of a widowed mother, or with the old fossil whom the school-board, with its tender-heartedness, dislikes to turn out. But such is the true condition of affairs, and it will not do to disguise the facts if we wish to know the truth about this work.

EXALT THE PROFESSION.

As I conclude I would not have my readers think that I am savagely quarreling with present conditions and prospects like a pessimist. I see no more discouragement here than in other professions. Here, as everywhere, in proportion as trained intellect, broad purposes, high ideals, and consecration to service enter into work, to that extent have we raised the vocation towards a profession. Every toiler, whether of brains or brawn, should mean that his work be worthy of himself and not of the mere pay he may happen to receive for its per-

formance. The general public is not to blame for the material and utilitarian ideas regarding schools and their conduct. Achievements are not beyond our aspirations. If teaching does not hold the proper place in the estimation of the community, it is because the teaching fraternity has not caused a higher recognition by virtue of professional worth. The pressing and paramount need for all teachers, if they desire such recognition from men and women, if they desire longer school terms, if they desire permanency in position, if they desire better pay, is to exalt the profession of teaching. When the qualifications for teaching are raised then will the pay be correspondingly advanced. Under the present conditions the profession does not deserve to command first-class talent. This state of things should not exist. "There is no conspiracy on the part of the public to keep trained persons from positions to which their worth entitles them." Teachers need to bring to this work the talent, the energy, the special preparation which other professions demand, and then the teacher will receive the respect, the deference and compensation due to such an expenditure of life force. It becomes the serious duty of every true teacher, to contribute to the sum of influences that shall raise teaching to the position it justly should occupy by virtue of its transcendent importance. Teachers everywhere should take heart, because indications point to rapid changes along this line in the near future. Efficient teachers are in demand more and more in intelligent communities. The differences between a competent teacher and a mere school keeper are being recognized, and appointments are being made upon merit more and more each year. Trained teachers are rapidly taking advanced ground. Teachers desiring a better state of things must see to it that skill and scholarship are made essential to membership in the great fraternity of educators. The character of a profession is rightly judged by the character of its individual members. Are the members of

high character, scholarly, skilled, animated by high devotion and lofty spirit, then may honor be expected. The profession must be magnified by lives enriched by broad conceptions of living and work, by exalted opinions of the possibilities and opportunities, and by a teaching commensurate with the demands of the hour. Every year should add something to the teaching power and ability of every teacher, and unless there is that constant growth, it ought to be a matter of serious concern whether or not he is worthy to be classed as a teacher. When persons can no longer sustain themselves with credit to the great profession, they should give way to those who will bring things to pass in a

manner which will reflect honor both upon those who are taught and those who teach. Schools, with their important interests, are larger than any or all teachers. When we can no longer add to their efficiency we should retire. Teaching is a great work and is worthy of nothing but the very best thought and energies and gifts and skill with which men are endowed. In giving thus for this distinctive work we will be deserving the same treatment from the community that is given to the physician, the lawyer and the minister. When it comes to the selection the question will be, not what is the salary and time of service, but where can we find the man.

MARION, IND.

"HOMESICK IN HEAVEN."

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"HOMESICK IN HEAVEN" is a peculiar theme. It is entirely out of harmony with our ideas of the "happy land." Still we question, and wonder if we shall meet all our acquaintances and friends in the beyond; and if some are not met again, how their absence will affect us. Holmes has written a pathetic poem which he names as above, and in which he tells a story to suggest a moral.

This is the story and what it suggests to at least one reader. The scene is in the court of heaven. The Lord sits upon his throne and lovingly considers the multitudes of the redeemed. He observes drawn apart from the rejoicing throngs a "sad and silent three," who, "while all the hosts of heaven rejoice, smile never." He calls an angel, and sends him to learn the cause of sadness where only gladness should be, and to supply the remedy. The angel approaches the silent sisters and inquires the cause of gloom amid so great brightness.

One speaks for all:

"Chide not thy sisters, * * * *
Children of earth, our half-weaned nature clings
To earth's fond memories, and her whispered name
Untunes our quivering lips, our saddened strings."

Each in turn states her special grief. One sorrowed the absence of a newborn babe "rudely torn" from her in the very beginning of its new life. The second sought in vain a young husband, "for that one dear human smile and none other." The third was saddened by the absence of a grayhaired sire whom she had left alone "in the starless night." The touch of baby lips, of lover's arm, and father's hand lingers in the memory, and the tenderness of earthly ties saddens the beauty and bliss of heaven. To each the angel reveals the object of her search in himself—babe, husband, and father—and chides them for misinterpreting the relations of earth and thereby marring the harmony of heaven. The cause for longing is thus removed and a better view of the spirit life is presented.

The angel says :

"To lie an infant in *thy* fond embrace,—
To come with love's warm kisses back to *thee*.—
To show *thine* eyes thy grayhaired father's face,
Not Heaven itself could grant; this may not be!

"Then spread your folded wings, and leave to earth
The dust once breathing ye have mourned so long.
Till Love, new risen, owns his heavenly birth,
And sorrow's discords sweeten into song."

This is the story. We are left to surmise the after-life, convinced that the angel can never be exclusively babe, husband, or father in the realms of spirit life; convinced also that wiser views came to the sorrowing three, and that their homesickness vanished before a better understanding of heavenly things. What are its suggestions? Job's question is here: "If a man dies, shall he live again?" With what bodies do they come? is also in thought if not on the lips. Are we not all too material in our conceptions and, hence, almost wholly in error as to the spirit's life?

Dr. Holmes answers Job's question affirmatively and then hints what may be the kinds of bodies and their reasonable relations. He certainly knew the many speculations concerning what the grave hides from us, and is unorthodox in his inferences. He had, doubtless, read *Gates Ajar* and had learned something of a view which materializes heaven. He knew that in almost every view of the spirit world, there is mingled much that is purely material. He knew that everywhere spiritual ideas are expressed in material terms, and human nature makes these terms the real things. He could understand the sister's longing, and put into her mouth the musical reason for her clinging to earth and earthly things.

"For there we loved, and where we love is home.
Home that our feet may leave, but not our hearts,
Though o'er us shines the jasper-lighted dome:—
The chain may lengthen, but it never parts.

"Sometimes a sunlit sphere comes rolling by,
And then we whisper, 'Can it be?'
And leaning toward the silvery orb, we try
To catch the music of its murmuring sea:

For at its perchance, some flashing glimpse of green,
Or breathe some wild-wood fragrance, wafted through
The opening gates of pearl, that fold between
The fading splendors and the changeless blue."

In the Christian's view there are too often

many things that are "of the earth earthy." Our sermons present them, our funerals emphasize them, our songs of worship abound with them. They rest on the idea of a body resurrection and a continuation of family ties. Angels have material parts, and God himself has physical characteristics, the creations of human imagination.

In *The Epworth Herald* these sentences occur: "Many of us are lonely now, because those whom we love have left us. The agonies which wrung our heart when we were called to give them up, are even now present with us, though we have tearfully said, 'Thy will be done.' The precious ones have gone to be with God. They dwell in many mansions. They walk the streets of gold. They drink from the river of life. They join in the chorus of the redeemed. But they have not forgotten us. They will be glad to see us again, as glad to press the kiss of welcome on our lips as we will be to receive it. What a meeting that will be! What greetings! What expressions of joy and triumph! What waves of rapture will break over our souls!"

Is this an uncommon sentiment? Is it not a material view? Can it all be explained as simply poetic? Dr. Holmes knew, as we know, that everywhere sad hearts are cheered by the hope of such a reunion, when in many cases it is impossible, or if possible, fraught with untold misery—a veritable hell in the midst of heaven.

Dr. Holmes seems to teach that the ties of the body are temporal, and are not repeated on the other shore, and for this reason homesickness in Heaven is impossible. He does not mean that memory fails or love ceases, but that love is spiritualized, and memory is its willing servant and not a sorrow-bringing master. He accepts the Savior's statement that they neither marry nor are given in marriage, but are as the angels of God." The relations of father, mother, brother, sister, son and daughter are purely material, and are simply accompaniments of man's animal existence. On the other side there

is no such existence, no demands for such family ties. They die with the body.

The life beyond is spirit and its relations are spiritual. Did the body pass to the home of light, father and mother would expect to meet son and daughter among the redeemed. Did these expectations belong to the soul's rightful experiences, homesickness would find a place near the throne of God, else the Universalist is the only wise worshiper.

Nothing but a life based on purity and love in new spiritual forms can reconcile the redeemed mother to the absence of her wayward son. But, her purified and newly-inspired life must make her know her wayward boy can find no pleasure in her company. He is unfit for it. Beginning to disregard her wishes and views of life when under her earthly influence, he has gone beyond the force of her goodness and love, and accepts his condition as rationally out of harmony with hers.

Is such a view cruel, heartless, regardless of human loves, destructive of spiritual aspirations? May not love need a new definition?

Beautiful as Whittier's thought is, comforting as it may prove in a thousand families, does one really need all that it seems to imply?

" Yet Love will dream, and Faith will trust
(Since He who knows our need is just),
That somehow, somewhere, meet we must.
Alas for him who never sees
The stars shine thro' his cypress trees!
Who hopeless lays his dead away,
Nor looks to see the breaking day
Across the mournful marbles play!
Who hath not learned, in hours of faith,
The truth to flesh and sense unknown,
That Life is ever lord of Death
And Love can never lose its own."

Is not love, properly conceived, two-sided as man's nature is two-sided? In the parent's affection is there not both animal and angelic love? On the one hand it is instinctive, an element of material nature, the conserving force of race existence; on the other it is rational, an element of the spirit's life, the lifting force in all life, the bond of union with the sons of God. The instinct

has been an evolution. It has become stronger as animal structure has become more complex. The higher phase comes through spirit and elevates the instinctive. The mother looks upon her babe, and loves by instinct as a lioness does her whelps. She looks again through rational insight, and loves her child in a way utterly impossible to the quadruped. She idealizes, sees the possibilities of the spirit, and anticipates a spiritual joy for herself and child. It is this love which rests on spiritual beauty, goodness, and truth. It is this love the Savior taught in his walks about Galilee. It is this love that was born in Heaven, and with the released spirit shall find again a home in the presence of its Creator and Father. In this sense God is love, and in this sense must the redeemed exercise love. This view makes it possible for the separation of families without sorrow, for parents to be happy when knowing their offspring lost to them.

The love so often emphasized among men is but the instinctive affection, animal in its nature, necessary to race existence, but dying with the body that makes it a necessity. The love that controls in Paradise enables him who has it to find brother and sister, son and daughter, and even dearer ties among kindred spirits, some of whom may have preceded him a thousand years. It enables him also to find the fullness of fatherhood and motherhood in the person of the All-Father.

" Thus ' Life is ever lord of Death
And Love can never lose its own.'
Thus ' Love, new-risen, owns its heavenly birth,
And sorrow's discords sweeten into song.' "

But why this discussion of Holmes' poem and its suggestions? Are the thoughts warranted by the poem? What have they to do with teaching and teachers' journals. In these days, the schoolma'am is lectured into a belief in the value of literature in the grades, and enticed into the purchase of many supplementary books for giving new life to the school. Literature adapted to the grades is indispensable to the best results. Holmes is among the chosen authors. All

these selections are expected to do more than cultivate the literary taste. They must direct to better thinking and better living. The child must incidentally find his morals and his articles of faith in these readings. School is to fit for one's vocation here and hereafter. The ideal life is sought, and all truth rightly learned gives impulse toward such life. So our mentors say.

What will be the effect of the poem quoted, and the suggestions therefrom? Suppose

teacher and pupil read, catch similar hints, and talk about them. Suppose they come to see life and love in this uncommon way. Would ideals change? Would life be richer and better? Would love be truer and wiser? Would the struggles for purity be more constant and vigorous? Or would danger lie in the hope thus shattered? Who can trace the influences that might be set in motion by the reading of such a questioning poem as "Homesick in Heaven?"

CARBONDALE, ILL.

THE NEW STUDY---WHAT SHALL THE BUSY TEACHER DO WITH IT?

BY LODIE E. REED,

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A NEW branch has been legislated into the already crowded curriculum of the public schools—namely, the study of alcoholic drinks and narcotics and their effects upon the human system. Was this addition an arbitrary one? The overworked or indifferent teacher is apt to think so.

The sole reason for the existence of the public school system is, as stated in the Constitution of Indiana, "the preservation of a free government" through "knowledge and learning generally diffused." It is, as Horace Mann has aptly said, "the republican line of fortifications." The primary object of the state in its public schools, therefore, is to train citizens for itself, its preservation, its progression. A secondary object may be found in its paternal relation to the citizen by which it is bound to protect him in his right to "life, liberty and the pursuit of happiness." Philanthropists, sociologists and political economists all agree that the greatest antagonist of good citizenship, the greatest foe to individual rights and well-being, is the narcotic habit of the nation. If the Prussians act upon the principle that "whatever you would have appear in the life of the nation you must first put into its schools," how much more is it the duty of a self-governing state, to put into its schools such teaching as to the effects and nature of alcohol, tobacco, opium and other narcotics as will result in that total abstinence from them which is the supreme condition of a sober, reliable citizenship, and a healthy, happy, prosperous people?

The teacher's office is to minister at the altars of the state and prepare the coming nation for its increasing responsibilities; he is the guardian of her sacred liberties more than he who bears the sword in her defense; the incarnation of that parental care that seeks to advise, correct and protect those committed to her care during the formative period of their lives, and nurse into fullest development the best and noblest attributes of their triune being. By every motive of patriotism, therefore, by all the tender relations of the parent delegated to him, the true teacher should welcome this branch of study not as an additional burden, but an added privilege and opportunity for fulfilling his high vocation. And, I take it, the teachers of Indiana are, as a rule, of this class; that they are ready to do their duty if they know what it is and how to perform it. Let us see what these legal duties are.

An analysis of the law gives the following points: 1st, The study is compulsory; 2nd, It is to be regularly taught; 3rd, It is to be given to all pupils and adapted in methods to their capacity; 4th, Boards of Education and other school officials shall make provision for the instruction—supplying necessary books and helps and giving the branch a time and place in the course of study; 5th, Teachers must make preparation and pass satisfactory examination; 6th, Dismissal is the penalty for non-compliance of the teacher. (This does not mean that school officials are exempt from any penalty for neglect of their duties as enjoined by the law; they are liable to re-

moval from office in the same way as for non-performance of other duties.) 7th, The instruction is to be given in connection with physiology and hygiene.

It is evident that the intent and object of the law is not to teach physiology and hygiene with an occasional reference to alcohol and narcotics, but to teach the nature of alcoholic drinks and narcotics, and their effects on the human system, in such a way as to discourage and prevent the formation of habits involving their use. Instruction will fail of this end, however, which has not a scientific-physiological basis. Hence, we designate this as scientific temperance instruction in contradistinction to that which presents merely the moral phase, pointing, indeed, to the finished products of intemperance for illustration and warning, but without impressing the first causes in the nature of the intoxicating substances and their physiological effects.

It is not my purpose here to discuss the objections which some prominent educators have advanced, that this instruction as given in the school text-book and others prepared especially for this teaching is not scientific. According to the accepted definitions of science—that it is “knowledge duly arranged,” “knowledge gained and verified by exact observation and correct thinking, especially as methodically formulated and arranged in a rational system,” such books and such a course of instruction have as much claim as other branches to being scientific, for it is duly arranged knowledge, based on the results of critical researches and experiments extending over a period of more than a quarter of a century, made by Dr. Benjamin Ward Richardson, F. R. S., Dr. James Edmunds, Dr. Willard Parker, Baron Liebig and many other physiologists and scientists of both continents, who are considered unquestionable authority in their professions. Let no teacher be disturbed by these criticisms, but see to it that his teaching is of this scientific character, as required by the law. This implies that he teach:

1st. The poisonous nature of alcoholic drinks and other narcotics. To do this he must show the poisonous nature of *alcohol*, and by the processes of fermentation and distillation, that it exists unchanged in wine, beer, cider and other fermented and distilled drinks, making them poisonous, or intoxicating. He must likewise show the poison principles in preparations of tobacco and opium.

2nd. He must teach the effects of these drinks and drugs upon the human system. This requires some knowledge of the organs and tissues of the body, their structure and functions, to

make the reasons for such effects intelligible and impressive. Such physiological teaching must, of course, be suited to the capacity and grade of the pupils. Happily for the busy and inexperienced teacher, this need is abundantly met by the various series of graded physiologies which the demand for such health-teaching in the lower grades has called into existence in the last few years. The promptness of the State Board of Education in having the Indiana series revised to meet the requirements of the temperance education law furnishes our standard text-books; but as the gradual substitution of these for the old series cannot be completed in less than a year; as the Indiana series lacks the primary text-book; and as the wide-awake teacher does not confine himself to a single text-book, but levies upon all other sources of information obtainable in developing and impressing a lesson, I may be pardoned for mentioning other publications in my suggestions as to methods of teaching this branch of study.

In offering these hints, I have in mind the teacher in primary and intermediate grades, and in the large proportion of ungraded schools where the instruction is usually given orally. These are “tried and proved” methods gathered from my own and the experience of other public school and temperance school teachers, who, by their use, have been able to make this a most fascinating branch of study.

Not less than in other studies must the teacher make careful preparation, having his plan for unfolding the lesson well in mind, all materials for experiments and object lessons at hand, that there may be no failure in illustration and they fail of their object thereby.

The teacher should avoid formality—study variety, in the presentation of the subject. Do not announce the exercise as the “temperance lesson.” An experiment, a story, an item of current news, a tale of adventure, may be used to awaken interest, and by an adroit turn and tactful questioning, be made to “point a moral” and enforce a scientific temperance truth.

The busy teacher will find it possible to crowd this teaching into his program by combining it with lessons in other branches. For instance: In geography, the mental, moral, and physical inferiority of nations using light wines habitually may be noted; in arithmetic, introduce problems showing the personal and national cost of the alcohol and tobacco habits; in natural history, comment on the great strength of the water-drinking animals; in grammar, select, at times, a temperance quotation to be parsed or analyzed; if you have occasion to “set copies” for your

body, that he shall know the value of drugs, and that he be able to make an intelligent application of the remedy to the disease. The teacher must not only have the special knowledge of the laws and principles which govern mind, but he must have a definite knowledge of the individual study, so that in the process of teaching there shall be an intelligent application of pedagogical principles. If we compare teaching with law or with theology in the same way we would find the same striking parallelism. The four employments are alike in the urgent necessity of special knowledge on the part of the operator before highest achievements can be accomplished. The third feature of professional knowledge remains to be applied. Professional knowledge is difficult to obtain. It requires time, patience and energy. Does not this hold true in the field of psychological investigation? Here, too, proficiency requires exacting labor, much time, and large amount of patience. If exacting demands are made upon the candidate before he can become a physician; if similar qualifications are required before a man can properly plead at the bar of justice; if to be a strong and efficient minister necessitates this laborious, painstaking preparation, is it not just as fitting to make similar demands upon the one who proposes to undertake the culture of the entire man? The same reason and common sense which requires a special preparation in the three would require it in the fourth. In my use of the term teaching, I have had constantly in mind the work, not as ordinarily passed as such, but such work as is based upon special knowledge, scientific in character, and requiring special training; the sort of work that is held up as professional by the foremost educational leaders at home and abroad. Having defined what professional teaching is, I want to mention some of its distinctive features.

NOT FOR SHOW.

There is one peculiarity of the teacher's

work worthy of mention. With the importance rightfully attached to education, it is seldom that teachers make the distinguished reputation that members of other professions do. This cannot be attributed to the fact that men in other callings are more brainy, more progressive, and are so far beyond teachers in general matters that they deserve this distinction, but the real reason lies in the nature of the work done by the teacher. The real teacher's work is something that cannot be counted or weighed or measured, but is confined to the forming of the invisible, and the giving of power to the unseen. When the surgeon has performed a delicate and difficult operation, something has been done which the mass of mankind can see, and in a measure appreciate. When the man at the head of a great nation successfully pilots the Ship of State through a great national crisis, he is applauded everywhere, because men can see what has been done. A definite result has been accomplished. The orator or minister, may, by a single address, rise to the very topmost round of popularity, because men can read and hear the words which have come from a soul burning with great thoughts. The teacher never so comes before the public notice. His work is continued, year by year, in silence and alone. The results of his teaching are largely concealed, and many years will pass before the results will be appreciated, and then, only possibly as reflected by the life of the former pupil. Such effects cannot be measured by popular applause as is the musician encored. While the teacher is denied popular and immediate recognition, there is some compensation in the fact of knowing that there are some, in every community, who are watching the silent work done in the school-room. The greatest forces of nature and society are those which work on and on in silence. While teaching is far from being a dress parade affair, or holiday fun, or a work that is calculated to give renown to its devotees, yet, when one is classed with such as Soc-

rates, Seneca, Pestalozzi, Arnold, Mann, Agassiz and Harris, he ought to be satisfied, for these are some of the choice spirits who have given grace and grandeur to humanity. To be a true teacher is to stand to-day among those who are in the very foremost ranks of human progress. It is the teacher who is sounding the depths of human philosophy, who is verifying the facts of science, who is analyzing history, who is probing mind, who is investigating matter, who is searching man, who is reaching up towards the Infinite in mind and character. Who dares to lightly value such a work as this, though he does not receive the plaudits given to statesmen, or the glory accorded to warrior, or the honor received by the pulpit?

TEACHING IS CONSERVATIVE.

Society has set three classes of persons to conserve its interests. It is necessary that the experiments and results of the best living of all the past be preserved, analyzed, and embodied in laws. This enables society to know what is permissible and also indicates what should not be done. To do this, as well as to gather up the new results of living from day to day, is given to the fraternity called lawyers. It is their business to settle the intricate questions, daily arising from the complex life of to-day, in the light and experience of all that has gone before.

But the preservation of the laws and experiences of men which result in government, is not the most precious thing which society wishes to be perpetuated. Mankind has always realized that there is a great need of a distinct recognition of the insight of the wisest men and seers "into the nature of the Great Power which is creating and governing the world." This sort of human knowledge is the basis of human conduct and life without which humanity cannot progress. That it may be properly cared for, society has set apart selected persons and consecrated them to the high purpose of preserving, in purity, the oracles of God

and imparting them to men. The teachers of religion are the most conservative element in society, and certain woe and calamity will surely come when such conditions are not sustained. Society thus entrusts peculiar doctrines to the lawyer for safe-keeping and inculcation and illustration, and a different set to the care of the clergy; there is still a third class, which she gives into the hands of the public school teacher, of vast moment to the welfare of the community. The teacher's realm lies in the childhood of the community. It opens new provinces of habit and knowledge for the child to enter and possess. In the discipline of the school and the equality of privileges among independent equals, the boy acquires a training for civil life which is essentially practical, and becomes a very potent factor in all after life. It is not enough that a pupil have a theory of what constitutes good behavior, be that theory never so good, it is necessary that he formulate that theory into habits of regularity, punctuality, silence, order, industry, under the skillful direction of a competent teacher. I often feel that teachers do not fully appreciate the value of this function of education which has so much to do in the future advancement of the pupils, in larger ideas of civics and ethics. The purely intellectual part of the teacher's work serves the interests of society directly. Family life and outside associations do much to enlarge the scope of the child's mind, yet it is reserved for the teacher to grapple specifically with knowledge, and lead the minds of the children out into greater mental activity. We teach the fundamental branches as though they contained the concentrated wisdom of the world; and there is good reason for this mode of procedure. "The studies and discipline of the school, open the windows of the intellect on all points of the horizon of human existence." Society needs citizenship, it needs this mental training in the children, that the man and woman shall have the largest sweep of freedom and power. No organization does

ON THE HISTORY OF EDUCATION.

TWILIGHT AND DAWN.

Every teacher, especially every kindergarten teacher, should have in mind to hold and to keep, at least the more important points in the progress of the history of education. If the kindergarten is as we believe, the golden fruit of the educational strivings of the race, at least it behooves all in the work to know something of its developments, if only to aid towards a clearer comprehension of the meaning of the result.

To this end, this series of articles will strive to give a broad, rough sketch of the theme; a pre-review, if you like the term, to introduce a closer study; a skeleton to be clothed by later research and thought.

When we turn our attention to any phase of history, whether it be that of a peculiar people, a single event, or a tiny thread in the history of many peoples, as in this instance, we are met with an endless procession of "whys." If we are ever to become independent and really intelligent students of history we must ourselves strive to find answers to these questions.

To the casual observer, history often seems a fabric, coarse, rough and wholly unattractive, but to the one who will peer carefully beneath the ragged thrums and knotted threads, there appears a golden strand, firmly interwoven, by which he may trace the wondrous design. If but once this pattern is discerned it is not to be lost, but shining and shimmering in a myriad of lights, it discloses its strange zigzag lines, which twine themselves into wider and still wider circles. To catch glimpses of the design in its entirety is to realize that all history shows one great all-pervading purpose of life—that the beauty of the earth and the fullness thereof may praise and glorify the Great Ruler and Creator; that earth's master, man, may at length, through his own experiences and exertions stand forth, in deed and in truth, creation's crowning praise.

With this thought in mind, let us begin at the beginning for our germs of educational development. We shall, at least, find the conditions from which they at length arise.

In all savage tribes is found a restless, aggressive spirit, that, however limited its own powers may be, seeks to supplant all weaker peoples with its own—to conquer, to rise. Hence, at first, the stronger slays the weaker antagonist, later he enslaves him, cunning having taken the place of brutish wrath.

A master and a slave!—In the history of development, this means the master's head to plan for two, the slaves hands to labor for two, and a

new and necessary element has entered in and made more rapid progress possible. This new element is leisure. So the master, relieved of the necessity of working for mere existence, learns to thrum a wild serenade; to improve his weapons of warfare; or he achieves some other barbaric accomplishment. Let us respect these results: our much prized art, science and literature are their direct lineal descendants. The master and slave constitute a miniature despotic state, while a collection of masters possessing each equal power, and considered with their slaves, constitute the aristocratic state.

Under these circumstances the world labored and progressed many, many years. So long as some parity was recognized by the masters between their position and responsibilities all went well and civilization marched on. But in each country history shows, sooner or later, that the superiors forgot their duty to their inferiors, remembering only the selfish advantages. They even became willing to use these to degrade others. When this happened the whole institution was doomed. It was necessary for it to become decomposed and absorbed before the high road of progress could again be pursued.

In these few generalizations the history of by far the greater part of the modern world is traced. England with her Wars of the Roses destroyed the strength of her aristocracy. France dragged her burden on, and on, and only obliterated it with her great revolution, and as for the ancient world they died in their sins, so to speak; for previous to the Christian era no nation passed beyond the condition of an aristocracy.

Athens at the moment of her greatest prosperity possessed four hundred thousand slaves, in a population of only half a million souls. To be sure there were now and then governments called republics—but they existed for the benefit of the few at the expense of the many.

Under this condition what educational progress was made? Ah! do we not know the *learning* of the ancients was great? Each nation strove to perpetuate the ideal for which she stood—the phase of truth she existed to reveal. Egypt and Persia handed down their wealth, life and learning to be worked over by the younger Greeks and Romans. India held fast, and with her tyranny of castes made the transitory permanent. She stands forth to us to-day, a petrified monument from the misty past—a gigantic object lesson of unfortunate and untimely crystalization. Sparta sent forth soldiers; Athens developed philocephers and sculptors; Rome made statesmen and citizens, but what country produced—the man?

With the overflowing universe around them

each and all utterly failed to perceive the initial truth, essential to further progress. While each tiny seed, drop of dew and grain of sand cried, "I am I, separate, complete, one," while each bird sang its own song and each child declared as best he could his own will, no man heard, and no one comprehended that an individual is the unit upon which all enduring, human-built structures must rest.

Now, answer the oft-recurring question, "Why must Greece and Rome have fallen?" Does a reasonable answer lie in this: "They never came to value a man as an individual—as a power-unit." This was the stratum of progress through which they could not pass. They brought all their powers against it with great force—Greece, ethically, artistically; Rome, civically and economically. It did not give way; they fell back shattered and broken, to rise only as incorporated in a new civilization, based upon the principle they were unable to grasp.

Between the time when the superior savage enslaves the inferior and the *real* fall of Rome, lies the first period of the history of education. In its great twilight labored Buddha and Confucius, while Socrates, Plato and Xenophon lent earnest, soulful efforts to draw back the curtain of ignorance and admit the early dawn of the coming day; the day of individuality, of man-values, of private judgment, of freedom; the day whose sun was to be the life of the Great Teacher.

HARRIET HICKOX HELLER.

OMAHA, NEBRASKA.

THE HABIT OF OBSERVATION.

"They seeing see not," said a great teacher of His pupils, and that, too, long before the public school system could be blamed with all the sins of omission and commission of which the world is guilty. In our own individual case, it is understood that any lack of close and accurate observation is due to early training, or lack of it, and faults of the school curriculum. We are victims of the crude notions of education which possessed the minds of men in the far-away days when we were school children.

"Seeing they see not," implies no censure to us. There is such a world of difference between "they" and "we." "They" ought to have done those things which they left undone; "they" should have seen what they saw not; but "we" fall short in our accounts only because of environment and education.

Thus, exonerating ourselves, we are quite ready to look down upon erring humanity and give that cheapest of commodities, good advice.

Half the joy of life comes from interpreting truly our own surroundings. We live as beggars in the midst of plenty; we see but do not observe; we hear but do not heed; we touch the surface but do not seek the depths of human existence; we hunger and thirst after righteousness but are not filled, because we mistake the sign of truth for truth itself—the husk for the fruit.

So, many a life is poor and mean and barren that ought to be abundantly rich; that might be a very great power for good and is no power at all, because the habit of observation has never become fixed. One who observes need never grow weary with that soul-weariness which is worse than death. Look at any passing crowd in our larger cities! Too many forms and faces proclaim to all the world, "I see nothing worth living for," and there is no blindness more pitiful.

A child trained to habits of close observation, and with good principle at the foundation, can hardly reach a point where life holds no interest. If he learns to see in the blossom the promise of fruit; in the caterpillar the coming butterfly; in the shadow the substance; his conceptions of life must grow deeper with the years.

I am not sure but that a jar of tadpoles, observed through all the stages of their existence up to full grown froghood, is a more potent factor in the moral as well as intellectual training of a child than the learning of the Westminster catechism. A child who sees in a tadpole something more than a queer sort of wriggler gotten up for his own especial amusement; who sees the gradual evolution of gills into lungs, of a water animal into a land animal, will by and by become the man who has a larger faith in himself and his fellow beings than he who has never learned to observe. He will not make hasty generalizations nor draw conclusions from false premises. He will have learned patience and large-mindedness because those are the lessons an observer finds on every side. He will be a good citizen and not an anarchist; a reformer, if you choose, but not a fanatic.

All these virtues from a jar of tadpoles? Yes, or a pumpkin seed, if one has the seeing eye and the understanding heart. Children love these commonplace things. It is through the actual, their own little world, that the first great lessons are learned. Some one is sadly at fault if in after years, as the world opens before them ever broader and fuller of meaning, its lessons shall grow irksome or its burdens unbearable.

Observation is one of the essentials of real sympathy. Much of the discomfort, not to say cruelty, which man inflicts upon his brother man, is simply a blundering lack of observation. One who looks below the surface will carry the habit into his

daily life and dealings with others. He will not be the one to inflict torture by saying the wrong word at the wrong time. Having learned to read the deeper thoughts of the natural world, he will the more quickly discern things spiritual. Tact, that blessed ministering angel, lends her services to the observant man, and he goes in and out among his fellows as one unlike ordinary mortals, a magician who turns discomfort into comfort, evil into good, darkness into light, and all because having eyes he has learned how to use them.

It was never intended that this earthly pilgrimage should be a doleful journey to the grave. For those who can see there is interest all along the way, and what we get out of life depends not a little on our powers of observation.

BERTA KNOWLTON BROWN.

OXFORD, O.

THE POSSIBILITIES OF THE MUSIC OF THE FUTURE.

I had intended to write an article for this month on the Great Teachers of America, but have concluded to reserve that for a later article, and take the above for the present, as this is about the time of year that school-boards are looking around to see what would be for the best interest of the coming year's work. It is the duty of the school-board to adopt any and all means, within the bounds of reason, by which the school will be benefited; and one thing that would greatly benefit every school, is the teaching of vocal music by a competent teacher. So I assert that vocal music should be taught in every school in the land, public and private, in city and country. The country schools have just as much right to musical advantages as city schools. Country and city people are taxed alike for such purposes. I would have a special teacher in each city of ten thousand or over, whose duty it would be to visit each room at least once a week, and twice if possible. In towns from one to ten thousand a special teacher would have charge of from two to four places. I would also have a special teacher in each school district, whose work it would be to go from school to school and teach the children to sing; such a teacher should have a music teacher's certificate, signed by a special music-board appointed by the state, and no teacher should be considered an applicant who did not possess such a certificate. Music should then be considered a regular study, and the same requirements made of it as of other studies.

As you doubtless see, all I have given above is but preliminary to the subject suggested at the beginning, and only such a course as I have

here outlined can make the cultivation of music what it should be, in order to be a factor in the musical possibilities of the future. Such a course of study, carried out fully for ten years, would begin to bring returns, among which would be: First, the universal recognition of the power of music in giving a nation a moral impetus that nothing else can. Second, as music is the universal language, it would place our country in touch with the world in a way not otherwise attainable. Third, it would develop the talent of the people of this nation, so that we would be the musical nation of the future, as the Netherlander, Italian and German have been in the past. But the greater advantage would accrue in the immediate and personal advantages that would be gained: First, by the care of the voice, which, in the case of children, is often ruined by teachers who do not understand the proper use of the child-voice. Second, the general musical knowledge that would be gained, thereby not only assisting the pupil in the study of instrumental music but in the cultivation of the ear, and musical taste. Third, the great benefit which would be derived by our church music and chorus singing. To-day there should be in every town of a thousand inhabitants, a chorus of at least forty singers who could sing the easier cantatas and small oratorios of Costa and Gaul, and there should be in every city of ten thousand a chorus of one hundred and fifty singers who could sing the greater works with a half dozen rehearsals; in a city of from two to three hundred thousand, there should be from three hundred to five hundred who could sing the oratorio of the Creation at sight. We, as a nation, are not to be compared with England, as vocal music is there taught to such an extent that every little village has its choral society, and is able to sing the best works. In London there are said to be five thousand singers who can sing the Messiah without a note before them, and why cannot we do the same? Now, what we need among musicians and those interested in music is agitation; every chance you get, give it your sanction, and the future of this country will see such a musical development as has never yet been dreamed of.

J. M. DUNGAN.

INDIANAPOLIS, IND.

FREE EDUCATION.

The public highway is not more open and free for every man in the community than is the public schoolhouse for every child; and each parent feels that a free education is as secure a part of the birthright of his offspring as heaven's bounties of light and air.—*Horace Mann.*

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"To read a statement of a fact gives knowledge: to verify the fact gives training: to discover it gives inspiration. Training and inspiration, not the facts themselves, are the justification of science teaching."—DAVID STARR JORDAN.

CHAPTERS FROM THE GOSPEL OF SCIENCE.

In the first number of THE INLAND EDUCATOR we expressed the intention to lay before our readers those distinctive characteristics which belong to true science wherever found, and to discuss, from time to time, the relations of science to teaching, and the fundamental principles of the scientific method. This intention was carried out to the extent of a series of five articles in the first volume, devoted largely to the historical aspects of the subject. Our plan was by no means completed along the line of historical development, and will be pursued further in future volumes. The need for preaching the true gospel of science will probably never cease until the millenium. Mankind will continue to wander from the straight path, and must be recalled. The same old story must be reiterated into dull or unwilling ears with every device of presentation, every charm of illustration which skill can invent; and still some will remain unenlightened and impenetrable. Our aim is not originality, but clear and forcible presentation of the doctrine wherever we can find it. We shall not hesitate to preach old sermons whenever they are pertinent, or to preach other people's sermons (with due acknowledgement), whenever they seem to be edifying. We hope they may be sound in doctrine and may persuade men to the truth.

VI. "THE FAILURE OF SCIENCE."

The observant reader may have noticed during the past year in various journals, literary, religious, educational and otherwise, certain dark and ominous hints as to the "failure of science." Practical failure to continue its conquest of the powers of nature, and to convert them to the use and convenience of men, clearly is not meant. The year which has brought successful aerial flight and the X-rays, could hardly be called a period of failure. The failures with which science is charged, seem to be three: (1) failure to answer all questions, to solve all problems: (2) failure to establish a sufficient basis for morals: (3) failure of the "scientific method" to furnish mental discipline and training commensurate with the cost. To the first failure all truly scientific men now plead guilty,

and will continue to do so for a long time to come. Certainty and finality belong only to theologians. The second failure may be only part of the first, or it may be the beginning of success: its discussion would be out of place here. It is concerning the alleged educational failure of science that we wish to say a few words. The case has recently been stated with sufficient clearness in the *Public-School Journal*.*

"It has been nearly twenty years since science teaching by the 'Scientific Method,' was introduced into the more progressive high schools of the country. The results are disappointing to the scientists themselves. * * A well-known high school principal of one of the best high schools in the central states, having a science department that is unexcelled, recently had the hardihood to declare his dissatisfaction with the educational results of the science teaching in his school. The best students in science were unable to write an essay upon their own specialty that was worthy of a high school graduate. * * The conviction has been growing for years, that in matters of pedagogy the expert scientist is a blind leader."

The educational movement alluded to, and its results, deserve a more careful consideration. The scientific revolution in education began at the top about twenty-five years ago, and has slowly permeated downward. Every college has been compelled to add to its faculty and curriculum upon the scientific side, or be left stranded high and dry outside the current of popular education. A visitor at any of the alive, growing universities, will find the most costly and imposing buildings and the most elaborate equipment devoted to the physical and biological sciences, and a large majority of bright students pursuing scientific courses. Engineering has become the only necessarily learned profession. Conversation with the trustees, president, faculty or students, will not suggest the presence, in their minds, of any suspicion of failure: on the contrary, all agree that the scientific departments are, to say the least, not less flourishing and successful than the others. He must be blind or squint-eyed who reads symptoms of failure in higher scientific education.

The wave of scientific reform has reached the preparatory and high schools. Some of them have constructed and equipped laboratories which vie in efficiency with those of the colleges. Many have made use of basements and attics, often inconvenient and inadequate, but presumably better than none, whence the sound of explosions and the odor of various gases escape to disturb the old routine. But the majority of high schools have done little more than to add to their courses of

*Vol. XV, p. 480, May, 1886.

study "fourteen weeks" in various subjects which are regarded as scientific, providing either nothing at all, or the most meager facilities in the way of equipment, time and tuition, for the pursuit of true science. The mistake lies in the idea that science is something pertaining to particular subjects and not to the method. "*There are no scientific subjects.*" "*The unity of all science consists alone in its method, not in its material.*" There is not, necessarily, any more science in teaching physics or botany than in teaching grammar or arithmetic. All depends upon the method by which either is taught. To judge the result of science teaching, in high or any other schools, we must first inquire, not what so-called sciences have been placed in the course of study, but what methods have been used. Neither text-books, nor laboratories, nor science teachers constitute, or necessarily bring about science teaching. Many a school has had all three and the product has been zero. The essence of the scientific method is direct contact of the mind of the student with the thing studied. It is like Quakerism in religion which permits no priest, creed, church or sacrament to come between the worshipper and his God. All *media* must be swept away and the naked fact be presented to the naked mind. The method is applicable to ideas, words, numbers, facts of history, as well as to salts, minerals, plants, animals. It is true, however, that the scientific method finds its freest field of application in those natural sciences from which it has been developed. They cannot be taught in any other way. Whatever may be true of other subjects, *natural science cannot be learned; it must be experienced.*

The observation and discovery of facts, does not constitute science. Facts are the raw material out of which science may be manufactured. If the process stops there, the result is only a pile of stupid and useless rubbish. The building, whether it be a woodshed or a bridge to the moon, must be constructed; that is, the accumulated facts must be put into proper relation to each other. This, too, must be done by the student and not another. He must not only be his own lumberman, quarryman and brickmaker, but his own architect, carpenter and mason. It is easy to see how a well-meaning teacher who knows his subject and has a good laboratory, may defeat the very end for which he and it are brought together; how he may *show* the fact instead of leading the pupil to discover it; how he may *indicate beforehand* the relations, instead of compelling the student to work them out by the slow and laborious processes of comparison and classification; how the student may fail to *experience* anything, may draw none but foregone conclusions, and may be the victim

of a system as cut-and-dried as that of Murray's grammar.

It is true that the expert scientist may be a blind leader. Because a man is competent to advance the frontiers of knowledge along the line of some special science, it does not follow that he is competent to teach the elements of that science. The faculty for research and the faculty for teaching are often conjoined to a remarkable degree, but are not always so.

In many cases a competent teacher is overloaded with work, not only with all the "sciences," but with mathematics, literature and other extraneous matters. Good science teaching requires more daily preparation than any other kind of teaching. A large quantity of material must be prepared day by day, and cannot be made ready once for all. No science teacher can properly attend to more than four classes a day.

Again, the whole program and organization of the ordinary secondary school has been devised with quite other ends in view than scientific teaching. The student's time is divided among too many things, and he is required to pass, in a single session of three hours, from one to another of as many different subjects. In those subjects which demand chiefly an exercise of memory, he easily acquires the nimbleness and agility necessary for making good recitations; but, for such work as the scientific method requires, he has a poor chance, indeed. For the working out of a practical problem in the laboratory; for the patient acquirement of fact after fact involved in every scientific investigation; for the deliberate weighing, measuring and marshalling of these facts; for bringing to bear upon them the powers of constructive imagination; for the forging out of a scientific induction; for all the conscious and unconscious mental processes which lead up to the moment when a (to the student) great generalization leaps into his consciousness like a flash of lightning—for these things, what opportunity is afforded by a poor pitiful forty or forty-five minutes a day, nicked at both ends by the implacable bell, and walled in on all sides by other occupations, foreign, insistent, and unsympathetic?

A large number of high schools,—how many it is difficult to discover, but not less than half of all—are supposed by their managers and patrons to be teaching science, and yet, are without a properly arranged program, without laboratories or apparatus, and with the work in charge of teachers who have had no special training in scientific subjects, and who have no idea of scientific method beyond the hearing of recitations from a text-book. In such cases, the "failure of science" is complete and inevitable.

The scientific movement in education has proceeded thus far. It has pretty thoroughly permeated the better colleges and universities. It has penetrated more or less effectively the high schools in the cities and larger towns; beyond these limits its effects are scarcely visible. Like the North American ice sheet, it has heaped up its massive terminal moraines along the line of the great universities and colleges from Cape Cod to Dakota, where its accumulations are bold, obvious and impressive even to the casual observer. It has spread its comparatively thin fringe or apron of drift over the smaller colleges and larger high schools; but here the signs of its presence fade out to an extremely attenuated border along which we detect only here and there an erratic boulder, lonely and homeless among unrelated material. In the wide region beyond, of small high schools and common or grade schools, the evidences of the latest and greatest educational revolution are conspicuous for their absence. The causes and conditions of this state of affairs will be discussed at another time.

To those who, either in genuine sorrow or with ill-concealed satisfaction, are croaking over the failure of the scientific method, we commend a consideration of the following questions: Can you discover any signs of failure in those institutions where science teaching has been most adequately provided for? In how many of them has the conviction "been growing for years, that in matters of pedagogy the expert scientist is a blind leader?" Did you ever know a student who had received only a little genuine scientific training who could listen patiently to talk about its failure? Does the unscientific work in the high school always enable the student to write a worthy essay? What proportion of high school students have ever had any real scientific training? Taking everything into account, is it probable that more than ten per cent. have? Of all the students below the colleges, have one per cent. ever had even the pretense of scientific teaching? Isn't it a little "too previous" to conclude that science teaching is a failure, when to so large an extent it has never been tried? Isn't it unwise to attempt to hold a wake over a corpse before it is dead?

REPUBLICAN INSTITUTIONS.

If republican institutions give greater scope and impulse to the lower order of faculties belonging to the human mind, then they must give also more authoritative control and more skillful guidance to the higher ones. * * * * * If they quicken the activity and enlarge the sphere of the appetites and passions, they must at least in an equal ratio establish the authority and extend the jurisdiction of reason and conscience.—*Horace Mann.*

SCIENCE IN THE TEACHING OF ENGLISH. XIV.

The last three papers printed under this title in this journal have been destructive in their nature. They have been aimed at formal language work. The author recognizes the fact, however, that it is an easy matter to criticize; it is not difficult to find fault; it is much easier to tear down than to build up. He wishes, therefore, to turn from this negative work to something more practical and helpful to the teacher.

The following paper and those which follow it, will try to show how language may be made a reasonable thought subject, rather than a formal or mechanical verbal memory study.
J. B. WISSELY.

THE CYCLE AS A MEANS IN LANGUAGE WORK.

[In Two Parts. Part I.]

An eminent instructor in history, before starting on work with his classes, always asked of himself three questions, one of which was,— "What am I to teach?" What does the question mean? It means that he would know the scope of his subject—all which it includes, all which it excludes. One of the important points necessary in order to do the most intelligent and best teaching in a given subject, is its scope. But what determines its scope? How is it known that certain facts must be classed with certain others in a certain subject? A fact as a mere fact is indefinite; it is only when thought of in relation that it falls into place and means most. Whether the palm tree shall be classed as a botanical or a geographical fact—whether the Rocky Mountains shall be classed as a geological or a geographical fact, depends upon the point of view from which each is seen, or the relation in which each is viewed. Both are facts of earth, and, if classified on the basis of the double relation existing between earth facts and facts of man's institutions, they fall under geography; for it is viewing earth facts in this peculiar way which makes them at the same time geography facts. Should the Rocky Mountains be classified on the basis of process of formation, structure, and composition, they would fall under geology. So each subject has an activity peculiar to itself which determines the facts of its subject-matter. What is this activity in the case of language? Take any example of spoken or written expression; for example, *The Constitution was adopted in 1787.* This sentence may be regarded merely as an expression giving us information in a certain line of knowledge; but now regard it as a purposed and an appropriate expression of thought, and it becomes a fact of language-study; i. e., some one thought a thought, and wishing to reveal his thinking to another, expressed it as appropriately as he could in the language of the sentence. The act analyzed is as follows:—1. Thinking the thought. 2. Purposing

to express that thought. 3. Creating the expression for it. 4. Thinking the adaptation of the expression to the thought. This is the language activity—the way of viewing a fact of spoken or written expression which makes it language-study; and any fact of language viewed in this way belongs to language-study. Accordingly-language-study embraces reading, writing, spelling, elementary language, grammar, literature, composition, and rhetoric, for these are all created by the same activity.

It is the purpose of this paper to discuss a mode of language-study for the grades, which may be called the cycle. From the language activity, it is evident that the student of language may study his subject from two points of view. He may begin with the expression, as he does in reading and literature, working out the thought and purpose of another and the adaptation of his language to his thought and purpose. This is mainly an analytic process. Or, he may put into appropriate language his own thought and purpose concerning a certain object or action, and be careful to make his language as appropriate an expression for it as possible. This manner of proceeding would be constructive, mainly synthetic. It is this mode of approach which the teacher first uses with the child, for the child is better able, when he enters school, to tell what he sees and understands concerning a thing, than he is able to interpret what some one else has said about it. The cycle belongs to this mode of language study. Other work may grow out of it as we shall see later.

By the cycle is meant a series of sentences appropriate to the expression of an action viewed as a return-to-itself. What is meant by a return-to-itself will be made clear by an explanation of Plato's theory of the *Idea*. With him, the idea gained by looking at the full-grown plant, is not the *idea* of the plant. With him, the thought of any particular act put forth, was not the *idea* of that act. The *idea* of the plant arose from seeing the force or energy, which, appearing first in the seed, revealed itself in all the stages of the plant's life until seed had been again produced; the idea of the act arose from a knowledge of all the various influences which led to the act, and all the consequences which resulted from the act. With Plato, then, the *idea* of the thing was comprehending it in its full cycle. Dante illustrates this principle of a return-to-itself throughout his Divine Comedy; and this is the advantage of studying themes by the master poets, for they present the act in its entirety—as a cycle—a return-to-itself. The following example is taken from canto XIV of Dante's *Inferno*: The image on Mt. Ida in Crete, broken and rent by tyrants, distills tears which

unite and form the bloody flood which is the punishment of those same tyrants in the *Inferno*.

Certain insights are fundamental in the use of the cycle as a means in language work. They are:—

1. Activity is the essential thing in the universe.
2. All activity may be viewed as cyclic—a return-to-itself.
3. One studying language may proceed from the expression to the thought or from the thought to the expression.
4. There are stages in the child's development.
5. The mind knows nothing isolated; hence, the sentence is the *unit* of language.
6. The ear is the primary organ of language. The child learns language by hearing others use it, and by seeing appropriate action accompany expression.

How the idea of the cycle is derived may be more fully seen from the following:

If what science says is true, that every atom in even the most compact substance exists in ceaseless motion and exerts its influence on every other atom in the universe, everything is activity. It seems that the essential thing in the universe is activity—action. This activity rises from its most passive form, in space, through various stages until it reaches its highest form, when it is true self-activity, viz., consciousness, spirit.

"Striving to be man, the worm
Mounts through all the spires of form "

The activity of some, at least, of these stages, manifests itself as cyclic. Above the realm of space is activity as manifested in physics. Here, one substance acts upon another, and neither changes the identity of the other. Is the activity here that of a cycle or only of a series? Next in the scale is the activity known as chemical activity. Here, atoms have such an influence upon each other that the result is a something different from either. Self-activity is not evident, though there is a progress toward it not found in physics. Is the activity here that of a cycle or only of a series? Ascending we find next the realms of geology and astronomy, where self activity is not yet evident; but here, in the realm of astronomy, is plainly evident for the first time, cyclic activity. The earth rotates on its axis—day gives place to night and night again to day; it revolves around the sun. Beginning with spring, the seasons run through summer, autumn, winter, and return again to spring—a cycle is complete. Still higher in the scale is the activity known in botany. Here, self-activity is more evident, for the plant stamps its own nature on elements of earth and air, and makes them over into plant. Here, too,

cyclic activity is evident, as it is again in the next higher realm of zoology and physiology.

Higher than these realms of the world of nature, are the realms of the objective world of man. In each of these the activity is plainly that of a cycle, in that it involves, as its beginning, the idea of the person in a certain condition to him not yet real, but ideal, and ends with the idea of the person in the ideal condition now made real. Of these the family is the lowest, because the most nearly related to nature. The self-activity here is not of so high a nature as that of the school, which is next higher, or of the industrial world, society, the state and the church, in each successive one of which the activity grows more complex—and higher.

Above all these is yet another realm of activity—the one in which man reveals his ideals. Beginning with architecture and passing through sculpture, painting, and music, this realm culminates in poetry. Activity in each of these realms is in the form of a return-to-itself.

In the realm of physics we halted and inquired whether or not the activity there manifests itself in a cycle or only in a series. The waterdrop, rising as mist from its ocean bed, returns in time to the ocean, and thus performs a cycle of activity; but, in most cases which might be taken in the realm of physics, the cyclic activity is not evident. The same is true in chemistry; but who knows? Perhaps, were our knowledge complete enough, *every* activity would appear cyclic. Every action, taken in connection with the purpose of one to understand or express it, does appear in the form of a cycle. The act of bringing in a bucket of water (an activity in the realm of the family) may be viewed as cyclic; for, seeing the necessity of a bucket of water, the actor sees himself in the ideal state, *i. e.* with the bucket of water brought in; and after having gone through the series of actions which accomplishes the desired end, his mind unconsciously reverts to his original ideal, and the act, in so far as it is the expression of a realized purpose, is cyclic. The same is true of writing a letter or a note of invitation; and so on in acts of any of the realms of man's activity.

Seeing that, in a great many cases an activity exhibits itself in the form of a cycle, and that, in connection with a purpose to understand or express it, it may always be viewed so, it is believed to be a valuable device to teach language in such a way as to express an action viewed in this way. For example, take the formation of a two-inch straight line. The line being formed by the movement of a point, the sentences expressing the action may be as follows:

1. The point rests.

2. It moves forward two inches.

3. A path appears.

4. The point stops.

5. It moves back upon its path to the place of starting.

6. It rests again.

7. A two-inch straight line appears.

The cycle, in that it deals with the sentence, and not with isolated words, applies the insight that the sentence, not the word, is the unit of language. The child never thinks an object as isolated. He has in mind not only the object, but also some attribute or attributes of the object at the same time. "But," someone may say, "does not the use of single words, as *bird* or *water*, seem to contradict this?" No. What the child really means is something like the following:—*That is a bird; or, I see a bird; or, This is water; or, Give me water.* So he thinks the whole sentence though he utters but a word.

The cycle applies this truth, also, that the ear is the primary organ of language. The child sees actions and hears words, he associates the two together, and learns to speak and to understand what is spoken. Since the child is not ready, when he enters school, to interpret the written expression of others, his first language work should be exclusively oral. In working out any series of sentences, the teacher must determine upon just what is to be worked out and how. Each sentence is to be as appropriate an expression for what is meant as the age and advancement of the child will permit. If it becomes necessary or desirable to use an unfamiliar expression, its idea should first be worked out with the pupils. Suppose "forward" in the cycle of the straight line to be strange to the child. Its idea may be taught by the movement of objects backward and forward on the desks of the children. The teacher works with the pupils, leading them to express themselves as freely as possible, and when an appropriate expression for the point has been worked out, it is fixed upon and is mastered by each pupil orally; and so on till the whole series is complete. By way of varying the work, the teacher may, sometimes, with those sentences which have been completed, pronounce to the class the action word only of the sentence, and let the child supply the remainder. Not once should any expression appear before the child written until the whole cycle has been completed. Since activity is the essential thing in the universe, and, to the child the most interesting and pleasing, the stress in each sentence should be placed on the word in it which expresses the action. Some one has said that the verb is the pivot or axis of the linguistic method

practiced by nature. As the sentence is uttered, then, the appropriate action should accompany the expression of the verb. For example, in the formation of the straight line, when the first sentence is uttered, let the point be at rest. In the next, let the hand move forward, showing in action the moving forward of the point, in the words, *move forward*. In this way the act exists in the pupil's mind as a series of pictures, and he gives the whole act, if not too complicated, in good language and with ease. The child, in order to remember a series of sentences, always pictures the actions in consecutive order corresponding strictly to their natural succession in time. Children possess a wonderful faculty for imagining a logical succession of actions. The Frenchman, M. Gouin, who claims to have discovered the way by which any one can learn any language in six months, says that it can be done on the condition that the learner will proceed according to the child's method—the natural method. The chief points in this method have already been stated. Restated, in brief they are:—

1. The fact that the child thinks in sentences.
2. That he thinks an act as made up of a series of lesser acts, and sees these acts as a succession of pictures in his mind.
3. That the verb is the vital force of the sentence.
4. That he accompanies his language by appropriate action.

MARY SCHAFER.

(Concluded in October.)

THE FUNCTION OF NATURE STUDY.

"The faculty of knowing what to do, and then doing it, is a chief factor of education. To deal with truth is as necessary as to know it. There is a great impulse to virtue in knowing something well. This is the essence of nature study in all its forms. History treats of the acts of men and nations, but it does not deal with the acts of the students. Their lives are developed by their own actions, not by the contemplation of the acts of others. If history is to be made a factor in moral training, it must be made a nature study. The lessons must be learned from original documents. It is desirable that children should study the real rather than the theoretical. There is a greater moral value in the study of magnets than in the comparison between 'shall' and 'will.' It is better one should study birds and trees than postage stamps. There is benefit in knowing, and knowing that one knows why he knows. To know why one is right and then doing right is the basis of

character. We are all narrow. The dog sees nothing which does not belong to his little world, and the man who is searching for mushrooms tramples down oak trees in his path. By the study of realities wisdom is built up. By relation to objects which he can touch and move the child learns his own limitation, and gets some idea of what he has got to learn. 'What can I do with it?' is the beginning of wisdom. As long as a child is in his own home he knows which is north and which is south, but send him away on a journey and everything appears to be wrong. He has been taken from his little world of reality, and he has to learn by dealing with new realities what to do next. It is not often that a man who knows what right is does wrong. It is usually the result of ignorance, or else a perverted nature makes wrong appear right. Sound methods are more important than sound information, and only the sane and the wise can be virtuous. The ultimate end of science is the regulation of human actions—to make them right. To make the work as it should be is the natural aim of art and science. When a child is taken from nature to the school he goes into an atmosphere of conventionality. He is not to do and create, but must imitate. He is dragged through a wilderness of grammar to a desert of metaphysics. He does not go there or do as he is told because he wants to, but because he will be punished because he will not do it. He learns rapidly by rote, and so the teacher fills him to the brim with rote learning. That this is no slight defect can be seen in every community. There is no fraud so shameless that educated men cannot be deceived into supporting it. The function of the schools should be to build up common sense. Folly should be crowded out, for we have built insane asylums for its accommodation. Lack of obedience means the extinction of the race. Government too good, as well as government too bad, has a wrong influence on men. Democracy is nature study on a grand scale. Nature studies are valued because they are associated with the interest and good work of youth. Nature is never obscure. She must be questioned seriously, but to every serious question she returns a simple, implicit and serious answer. —Dr. Jordan in *Education*.

EQUAL ADVANTAGES.

The great doctrine which it is desirable to maintain, and to carry out, in reference to this subject, is, equality of school privileges for all the children of the town, whether they belong to a poor district or a rich one, a small district or a large one. —*Horace Mann*.

PRIMARY WORK.

CONDUCTED BY SARAH E. TARNEY-CAMPBELL, Supervisor of the Anderson Schools.

THE SCHOOL PROGRAM.

The following helpful advice to teachers, herewith given, is from Sarah L. Arnold's *Waymarks for Teachers*. While these suggestions will apply to all teachers, they are especially needed by those who are inexperienced. It is the teacher's duty to use the experience of every other teacher; to try to see what they have found to be helpful, and, as soon as any suggestion seems reasonable to try it. There is no need of a teacher's plodding along year after year with only her own experience to help her. She should draw from every teacher whom she knows or about whom she reads.

In all programs, the exercises should be so arranged as to afford variety. The child's interest and attention flag if held too long to one kind of work. Writing should alternate with book study, number with drawing, physical exercises should follow work involving little movement. Music should break the monotony of quiet study, recess should permit entire relaxation and recreation. In providing seat work, this matter should be considered, and variety of occupation should be provided. A table at which the pupil may stand to cut, paste, model, or arrange forms, allows little children the freedom of movement which they need. Work at the blackboard also affords opportunity for variety in position and movement.

Simple physical exercises in the intervals of the program rest the tired muscles and freshen the school-room atmosphere. Let the little children run, fly or skip to their seats, sometimes making the circuit of the school-room. Let the entire school clap their hands, stand upon their feet, upon their tiptoes, stretch their fingers, shake their hands, whenever the air becomes heavy and the class listless. A stanza from a merry song helps at such a time,—a bright story or a hearty laugh; children will turn with new and heartier endeavor to their work after such a movement of rest and recreation.

The seat work has two general aims,—to prepare for the coming recitation, or to repeat and apply a truth learned in a preceding one. The program should prepare for both the preparation and the drill, affording appropriate periods for each. In primary classes the latter will predominate, as the new ideas are in most cases presented by the teacher in oral instruction. After careful study with the teacher, the pupils learn how to study alone the new lessons in spelling and reading. To these their study of new work is chiefly confined.

The repetition of language or general lessons and the application of new knowledge in number, should follow the period of oral work in those subjects: the study of the reading lesson should follow the period of oral word study and precede the reading.

Although no period is allotted in the program for the correction of seat work, it should not be forgotten. Some of the written work can be discussed in the appropriate recitation period. The classes may be dismissed a moment before the next period opens, and a swift, yet careful glance, may be given to the work upon slate or desk. A word of caution or approval, when the child is still in touch with his work, counts more than ample criticism when the time is passed. We have spoken elsewhere of the preparation, distribution, and commendation of work at the seats.

The discussion of the program is not complete without some reference to the teacher's preparation for her work. The daily preparation for the lessons of the day ensures the effectual moving of the program and the success of the school work. With inexperienced teachers, this preparation should be even minute in detail. The writer remembers a day-book in which items were entered daily, during and after class exercises, in the order of the program. "Bring pictures to show mountains." "John S. fails on 9 times 7." "Prepare spherical objects for drawing." "Review all words studied this week." "Look up Whittier's Boyhood." The pages of the book became a record of the work of the class, and afforded a basis for reviews. The memoranda helped in the detailed preparation of the lessons, and to prevent the hurry and confusion which result from lack of preparation. They helped the teacher to fulfill her many promises to the pupils and thus to hold their confidence. And they went far to secure the interest and attention which are accorded to all lessons which speak a fresh and thoughtful preparation on the part of the teacher.

"THE FIRST DAY."

Many things are written and said to the new teacher about the first day of school. But nothing can be said to the teacher before he has had a first day that will mean as much to him as after he has had a first day or even half of a first day. To the new teacher, only the most general notions can at this time be very helpful.

1. Each teacher should try to visit his school house and room before the first day, and see where things are kept, and the condition in which they are. There are so many things that cannot be foreseen that it will be a great help to feel somewhat at home before the children come. It will be something in her favor to know where the crayon, erasers, broom, dustpan, etc., all are, for they are sure to be needed.

2. The teacher should see the register before the first day. Then she will know pretty well how large the classes will be, and the advancement of each. This makes her able to determine where to begin the work, and she can have the lessons ready to assign without taking the time of the first day to inquire of each child how far "he got last year," and then to see that each is sure he reached a place in his books different from everybody else.

3. The teacher should have a program carefully prepared to take into the school the first morning and be ready to start immediately and follow the line there put down. Of course, there may be several changes to be made, and it may take two or three days to get the program to work with the least friction.

4. The teacher should not only know at what point each class should begin, but she should be prepared on each lesson before beginning school the first morning. And on work with the little folks, she should know exactly what she is going

to do at each period, and what kind of busy work she will give. All this preparation will pay for itself several times over.

It may seem that the teacher need not prepare the lessons beforehand after school is started. If it is a helpful thing to do for the first day, it will also be helpful for the days following.

5. It ought to be unnecessary to say that the room ought to be clean, and the blackboards should be as clean as a water and cloth can make them; that nothing has any place on the board the first morning unless it is the program and the assignment of lessons for the larger classes.

6. The teacher may take the time the first morning to get from the pupils their names and ages. But most teachers find it very much more satisfactory to do nothing of the sort, but, if in the country school, to have the class come up for recitation and then get the name of each of them. It allows the rest of the school to be busy at their own work.

And by the way, have you wondered how much time you wasted during a term by calling the roll, a thing which is altogether unnecessary? You always know what children are absent and you can mark that on the register after school is dismissed just as well as to take three minutes from each of forty children, which is two hours, for this work. Just consider the matter of calling the roll and be honest in trying to decide of what possible benefit it is to your school. Our school years are short and let us make the most of them.

7. Resolve to speak in an ordinary conversational tone. Don't be so loud that the people passing along the road know what you are doing.

8. Invite a friend to visit you soon, probably the second week, and ask him to watch your work carefully and to tell you honestly what he considers good points, and just as honestly to tell you what he thinks are faults in your work. You want to know fully of what defects he sees in the discipline, unless if your pupils don't behave, you can't be a school even with a three-year term. If you don't see enough that goes wrong, you want him to tell you what he thinks is wrong and teach your classes in your manner without allowing your habit of questioning the pupils to show itself, etc. And finally, when this time comes, when all this, you must feel that he is not so friendly as ever had because he told you what he really thought.

THOMAS SMITH AND THE BAG OF RICE.

There is a story which I have heard of Thomas Smith, a little boy, who lived in a small town in a very old man's house, and who was very old. But not more than a hundred years

ago—long, long before your grandfather was a little boy, or even before his grandfather was a little boy. Thomas Smith came from another country to make his home in the State of South Carolina.

South Carolina was quite a new country at that time, but so was all of the rest of this great land. The people came here because many of them thought it would be much easier to make money here than at their home. They believed precious stones like diamonds and emeralds and rubies could be picked right out of the beds of rivers. But they were all very much mistaken and many of these disappointed people died of starvation or went back home. But when Thomas Smith came, that idea of getting rich so quickly had passed, and people now knew that gold and jewels could not be picked up that way. So he went to work with a will to make the most of the new country. He soon learned to shoot well, and would spend days in the forests and come home with great flocks of wild turkeys, geese, and pigeons. Sometimes he would kill squirrels and rattlers, and he would be felt when he was able to bring home a deer.

But such food as this all the year round did not satisfy him. To be sure, they raised some corn and made corn-bread, but they did not have peaches and fruits as we have now. Thomas Smith often thought of his old home thousands of miles away, and the rice they had to eat. He knew rice grew best on wet ground and in a warm country and he believed it would grow well in South Carolina. But there was never a grain of rice grown in this whole country at that time. Neither could he go to his old home and get any to plant. So there seemed to be nothing to do but go back to the great woods and shoot more turkeys and squirrels and deer and eat these just as he had done ever since he came to South Carolina.

One night there was a terrible storm at sea, and in the morning when the people looked out at Charlestown harbor there was a vessel that had been driven in by the wind. All the people in the little town went down to see who the unfortunate visitors were that had been compelled to come to land. Thomas Smith was delighted to find that the ship came from his old home and that he knew the captain. He and the captain had been little boys together.

These two men had a fine visit, and each told the other all the news he could. Thomas told the captain all about this new country, and while he intended to stay here, he did get so hungry for rice, sometimes, that he thought he would have to go to his old home.

The captain told him they had some rice on board, and, while he had none to sell, he would give him enough for a meal or two. Then Mr.

Smith asked him if he had any that would grow—any seed rice,—for after rice has been prepared for cooking it will not grow. The captain said he happened to have one little bagful, hardly more than a double handful, but he would be glad to give this to his old friend whom he had found here in Charlestown.

Mr. Smith planted this rice in the wettest part of his garden. How anxiously he watched it and carefully tended it! It grew and did well for him. He divided this seed he got from his first crop among neighbors, and in two or three years all the gardens in Charlestown were planted to rice. It was not many years after, that all the wet grounds in that part of South Carolina were given over to rice culture, and several thousand bushels of rice were shipped away every year.

And so it all came about. A storm blew a vessel in to land and on this vessel was a tiny bag of rice. Thomas Smith knew what a fine food it was and how to cultivate it. He planted it in his garden and this little patch was hardly as large as this room. From this small beginning has come the great rice industry of the Southern States.

COMPULSORY EDUCATION.

Is it true that the sentiment of the people in this State is not ready for a compulsory law of education? A State that has had a much rougher road than Indiana, has just begun the actual work with the increased attendance from such a law. This is Kentucky, and the Hiles compulsory education bill passed this last winter has just gone into effect. It is said it is probable the number of teachers will have to be increased one fourth to accommodate the children.

The queer feature with us is, that we are very much alarmed at the necessary additional expense in providing buildings and teachers. This is not the thing that should alarm us. If the number of buildings and teachers would have to be materially increased, it would go to show that we need, very much indeed, just such a law. It would show there is a large number of children out of school that should be in, and, if but extra buildings and teachers were needed, it would show us that most of our children were in school.

In very many Indiana towns, one is struck with the number of children, and boys especially, that play on the streets and vacant lots during school hours. And these are children who are not out of school because they have to help support the family. Certainly we need something that will compel parents to do the best thing for the children—not for the sake of the parent, but for the sake of society and the child himself.

Why should not Indiana have such a law?

PRIMARY LANGUAGE.

The teachers in the district schools say, again and again, that they cannot have number, reading, geography, and language work. And I am sure it will be a pretty difficult thing to arrange for separate work in each of these lines. However, there is no necessity for trying to make all these distinct subjects.

The geography work of the first year should be nature work on plants and animals around the child's own home. This nature work is the best kind of material to be used in the language work, and it cannot be urged too often, that the language work in the first and second grades should be an incidental thing, (in the main, at least,) and the children should be interested in the flowers and leaves and fruits; the squirrels, birds, and rabbits, and the language exercise should consist in their talking about such objects.

Much of this material can be brought into the school-room, but the observation of the animals must be done on the outside. But the teacher can give direction for this observation, and then the children can report on what they have found out. The teacher can ask them to notice the kinds of birds around the school-house, where their nests have been, how the old fed the young, what they fed; what birds are in the swamps, how they differ in appearance and habits. Such questions will stimulate the children to do the observing outside and make them anxious to report on what they have discovered.

The recitation period may be lengthened by putting the two lowest classes together for hearing these reports. Those that can write out descriptions of the bird and its habits might do this, and the first year children who cannot do this will have to give theirs orally. But by combining some of these classes in this nature and language work a much longer period can be secured for the recitations. And it is in these little recitations that the teacher touches most closely the life of the child.

It is impossible to combine the reading and number classes of the first and second year, but the work in language is of such a nature that it can be done quite readily. Then, let the language work be upon the objects in which the child is interested, and these are usually plants and animals. The teacher will also find helpful work to tell them some myths and fairy tales, some stories of child life similar to their own, for reproduction. It is not necessary to tell them, when listening to the story, that they are to reproduce it. But make it so interesting that they will be glad to do it.

“I must be cruel only to be kind.”

—*Hamlet.*

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS.—IX.

WAGES.

That part of wealth which in the process of distribution goes to labor, is called wages. The share which is given to labor should be a just one, since labor is a joint factor with capital and land in the production of wealth.

NOMINAL AND REAL WAGES.

Every workman receives a nominal and a real wage. The nominal wage is the money which he receives for his services to his employer. His real wages will be measured by the amount of goods he can get for his labor. If A receives \$15.00 a week and it costs him \$12.00 a week to live, his nominal wages will be higher, but his real wages will be lower than those of B, who receives \$12.00 a week but, who, on account of the cheapness of the necessities of life, can live equally well on \$8.00 a week.

What is true of nominal and real wages of different workmen in different places may be true of the same workman at different times. It is possible for nominal wages to be lowered, while at the same time the real wages are increased. If the price of goods decreases in a greater ratio than does the price of labor, it is evident that less labor will be needed to purchase a given amount of goods than before the reduction. For example, if a suit of clothes which formerly cost \$20.00 can now be bought for \$15.00, the workman, whose nominal wages were at that time \$18.00 a week, can now buy the suit with less labor after his wages have been reduced to \$15.00 a week than under the first condition.

CAUSES WHICH MAKE A DIFFERENCE BETWEEN NOMINAL AND REAL WAGES.

1. *The purchasing power of money.*—The purchasing power of money is not constant. Money may become more or less valuable under conditions just as any changing commodity may. As a measure of values a dollar will at one time command more goods than at another time. This increase or decrease in the purchasing power of money may be due to the character of the money itself. The money metals have values dependent upon weight, irrespective of any values which the government may place upon them. To coin any one metal into dollars of different weights would be to make dollars that will not purchase equal amounts of goods in the markets. The student of history can discover numerous examples of the effect of a change of coinage upon the purchasing power of money.

The amount of money in circulation also affects the purchasing power. We have learned in the

study of money, that an increase in the amount of the circulating medium causes a rise in prices, and a decrease, a fall in prices. An increase in the amount of money, therefore, lessens the purchasing power, and a decrease in amount increases the purchasing power. If there is a rise or fall of prices there will be a decrease or increase in real wages unless there is a corresponding change in the nominal wages. This effect is often seen when there are fluctuations of the amount of paper money used. The continental paper currency, and the paper money issued by the South during the Civil War are good examples of this. Students are familiar with the enormous prices at which goods sold in this depreciated money. It is evident that, unless wages increase in proportion to this decrease in purchasing power of the money used, that labor must suffer greatly in consequence. A workman must receive a very high nominal wage if he must pay \$600.00 for a pair of boots.

2. *Extra earnings and concessions.*—Real wages do not depend alone upon the purchasing power of the nominal wage. Aside from the stipulated money-wage, workmen often have opportunities for extra earnings by overtime work or extra work. They may receive many concessions from employers. Board may be furnished, a house and garden may be provided, goods may be sold to them at cost, the farmer may allow his hired man free pasture for his cow, etc.

3. *Regularity of employment.*—Nominal wages are calculated upon the time during which the laborer is employed; while in estimating the real wages we must take into consideration the length of time which the laborer must live off his earnings. A telegraph operator on a salary of \$40.00 a month for every month of the year, receives a higher real wage than the teacher who is paid \$50.00 a month for nine months in the year.

There are some employments that are irregular from their very nature. The climate and seasons also make some kinds of business irregular, and even social and religious conceptions often affect the regularity of work. Farming, fishing, fruit packing, teaching, are some of the kinds of business that are irregular because of their nature or the effect of the seasons. Social and religious ideas set apart many festivals and holidays. It is important that the distinction between nominal and real wages be clearly seen.

CAUSES REGULATING NOMINAL WAGES.

1. *Productivity.*—General F. A. Walker considers productivity to be the chief cause of regulating wages, and many other economists support this view. The employer will pay most for that labor which will produce for him the greatest amount of wealth in the least time. The efficiency of labor

depends upon many causes which were discussed under Labor and need not be repeated.

2. *Custom.*—The influence of custom upon wages is seen everywhere, but is seen more in communities which are affected but little by industrial excitement. Employers offer, and laborers accept, the same wages from year to year regardless of economic changes, simply because it has long been customary to pay so much for a certain kind and amount of work.

3. *Wage-scale.*—In our modern industrial centers the wage-scale fixes the wages for a certain length of time. It is true that the wage-scale may be determined by the causes regulating wages in general, but after the scale is agreed upon by master and workmen, wages remain fixed for the period over which it been agreed that the scale is to extend—usually six months or a year. This wage-scale may be arranged between an employer and the laborers individually or collectively.

4. *Supply and demand.*—The price of labor is regulated largely by the supply and demand, just as the price of goods is governed by supply and demand. The supply is not wholly determined by the number of laborers seeking employment, but by the number of efficient laborers seeking employment. Immigration may increase the supply of labor to such an extent as to make a considerable reduction in wages.

5. *Competition.*—The greater the supply of labor the sharper will be the competition between laborers, and the greater the reduction in wages. If business is very brisk the demand for labor may exceed the supply, and competition between employers wishing to secure labor may advance wages. The ease with which laborers may remove from place to place tends to equalize the supply of labor, and thus to lessen competition.

6. *Cost of living and standard of living.*—Wages must be proportioned to the cost of living in the place and at the time of their payment. Thus, there is a wide difference between the wages paid in the city for given service and those paid in the country for the same labor. Again, an increase in the cost of living must be followed by an increase in wages. Whatever demands a higher standard of living will tend to increase wages.

7. *Regularity of employment, the healthfulness of a given kind of labor, the difficulty of learning the trade and the responsibility of a position are all factors influencing the rate of wages.*

8. *Organization.*—Labor organizations seek to control the influences which determine wages so that those forces which increase wages may predominate. They attempt this by means of strikes, the adoption of wage-scales, by controlling supply and demand and by cooperative production. At-

tempts are also made to increase the real wages through distributive cooperation. Employers also combine to keep down nominal wages. The student should carefully study the forces which regulate wages in his own community. It is over this question of wages that the great labor battles are fought. In the consideration of this matter, it must always be remembered that there is a maximum wage above which employers cannot pay and maintain business, and that there is a minimum wage below which laborers cannot work and live in decency and comfort.

METHODS OF PAYMENT.

1. *Time wages.*—By time wages is meant payment for a given amount of time spent in labor without regard to the amount of work accomplished. In large factories such wages are reckoned by the hour. Under the time system there is little incentive for workmen to increase production.

2. *Piece work.*—In many industries workmen are paid according to the quantity and quality of the work done; weavers, according to the number of yards of cloth woven; glass blowers, according to the number of bottles blown, etc. This system offers a strong incentive for increasing the output, since the wages received will depend entirely upon the production.

3. *Sliding scale.*—Under the sliding scale, wages depend upon the market price of the product. This method is sometimes employed in coal mining and iron industries. To illustrate: the price of coal ruling in a certain period of time is taken as a standard price. With this price as a basis a standard wage is agreed upon between the miners and their employers. When coal brings the standard price the standard wage is paid; when the market price is higher than the standard price a certain per cent. is added to the standard wage, and a per cent. is deducted when the price of coal falls below the standard. Some of the advantages claimed for the sliding scale are: The maintenance of a constant relation between wages and prices, resulting in greater steadiness in trade and wages, and the good feeling engendered between employers and employees by the possession of common interest—keeping up the price of the product. These advantages have not always been realized in America. Laborers have not been entirely satisfied with the system, since they have no power to influence prices, and are thus at the mercy of conditions over which they have absolutely no control.

TIME OF PAYMENT.

Wages are usually paid at stated intervals of one, two or four weeks.

I. M. BRIDGMAN.

POLO, ILL.

TOWNSHIP INSTITUTE WORK FOR 1896-97.

SIXTH INSTITUTE.

1. *History of Civilization*. Pp. 64-65.
 2. *Political Legitimacy—Reorganization of Society*.
 3. *THE BEGINNING OF THE PERIOD COVERED BY THIS LECTURE.*

1. A germinal and transitional period it was a time during which the new history-making races were assimilating those ideas which had been originated by the classic peoples, and were more fully developing and establishing those ideas and institutions which had been common to the Germanic people for ages. These processes, which went on during this period, resulted in a blending of the Germanic and classic ideas and an organization of society upon new principles. These, although not administered inferiorly through the energy and vigor of the people who carried them out, eventually made for the higher civilization of the world.

The thoughtful student of history who is searching for the origin of modern institutions and the cause of the existing forms of society will find much to repay him in the study of the Middle Ages. This lecture should, therefore, be studied with great care; the more cursory reading of it will not be sufficient to give an insight into the force of the ideas which Guizot lays down.

2. PREPARATION FOR THE STUDY.

It is probable that some who will take up the reading circle work will not be acquainted with the ideas upon which Guizot bases his deductions. To secure this chapter will have but little meaning in order that it may be understood a general knowledge of the period known as the "dark ages" should be obtained. If this is not done, what conclusions will have to be brought upon the various incidents and that is neither scientific nor historical. A little of the history of the subject will be enough if the history of the Middle Ages is studied the more needed. The reading should be done before the study of the third lecture begins.

3. CAUSES OF THE LATTER.

Elements of ideas in early primitive European civilization: 1. A state of nature. 2. Monarchy. 3. Repugnance to the church.

1. The year of the end did even in these or events of the world. The supremacy of the church and the power of the monarch. Were there causes of the year of the end? These ideas probably were the cause of the year of the end. What were the effects of the year of the end? The year of the end was a time of the end. The year of the end was a time of the end.

primitive and genuine form of society in Europe and the outcome of the conflict of ideas?

2. Political legitimacy: force vs. righteousness, as a basis of legitimacy.

Political legitimacy should be thoroughly comprehended. See how far force has been used to establish political legitimacy. Was force used by the Greek States, by Rome, in England, in America? Do you know of any governments which were established without the use of force?

3. Classes in the civilization of the mediæval age. Freeman, *Landed Freedmen, Slaves*.

Were these classes fixed? In addition to what Guizot says concerning the classes and condition of society see Myers' *General History*, p. 425; Sims' *History of Germany*, p. 5; Andrews' *Institutes of General History*, p. 186.

4. State of property: a. Allodial. b. Beneficial.

For the further consideration of the state of property consult: Maine, *Ancient Law*, pp. 221-224; *Institutes of General History*, "Tenure of Land," p. 184; Sims, *History of Germany*, p. 25; Freeman, *Historical Course, General Sketch*, "Origin of Feud," p. 164.

5. State of institutions: a. Monarchy. b. Aristocracy. c. Representative government.

Observe the outcropping of these systems in the mediæval states.

6. Causes of the barbarism of the age: a. Material causes. b. Moral causes.

1. If the reader is not familiar with the shifting about of the various barbarous tribes, a knowledge of these migrations should be obtained in order that this changing of tribes may be recognized as a cause for the conditions of the age.

Accounts of the conquests of the barbarians may be found in any good history. See Yonge, *History of France*, chapter I; Sims, *History of Germany*, chapters III and IV; *Institutes of General History*, "The Beginnings of France" and "Rise of the Carolingian House," pp. 126-128; Hunt, *History of Italy*, chapter I. For accounts of the Saracen invasion see Myers, *General History*, chapter XXXVI; *Institutes of General History*, p. 224; Freeman, *General Sketch*, p. 118.

2. A state sufficiently intellectual to lead society out of barbarism requires: 1. Ideas of the plans of civilized society. 2. That these ideas be held in common. 3. That sufficient force of will exist to put these ideas into execution. Were these conditions wanting in the "dark ages?"

Which of the causes mentioned by Guizot was most potent? Were there other causes at work to keep society in a state of barbarism?

Causes leading out of barbarism:

1. Instinct of improvement. Was this instinct

characteristic of the Teutonic tribes? See Myers, *General History*, p. 368; *Institutes of General History*, "Character of the Germans," p. 113.

b. The saving remnants of Rome. Consider the ideas of art, laws, literature, manners, and social customs which Rome contributed to mediæval and modern Europe.

c. Influence of the church. The church had a very marked influence in bringing Europe out of barbarism because of the deeply religious nature of the Germans, the teachings of Christianity, which were condemnatory of barbarous customs, and the activities of the church itself. See Myers, *General History*, chapters XXXIII and XXXIX; *Institutes of General History*, p. 118.

d. Influence of great men. Who were some of the great men of this age? In what ways did they influence the age?

8. The events, or efforts, to which these causes led:

a. Compilation of barbarian laws. Sime, *History of Germany*, "The Salic Code," chapter III, p. 19; Maine, *Ancient Law*, "Codes of the Barbarians," p. 288.

b. Adaptation to Roman municipal conditions. Duray, *History of the Middle Ages*, book I, chapter III, says, that Theodoric retained the municipal government of the Romans.

c. Territorial legislation of the Visigoths in Spain. Study this in the early history of Spain. What do you know of the Council of Toledo?

d. Charlemagne, the foe of barbarism, warrior, and ruler.

A careful study of the life of Charlemagne will be necessary in order to understand why he is placed under the eighth topic.

9. Results of these efforts at civilization:

a. On barbaric invasions. b. On the settlement of populations.

Study the conditions of Europe at the close of the "dark ages." Do the facts of history justify the conclusions given by Guizot?

The books to which references have been made are such books as are generally accessible to the average teacher. In the suggestions offered we have had in mind those readers who have given but little attention to this period of history. In making these references the idea has been not to criticise the views expressed by Guizot, but to give the basis for his deductions in order that the student's views may be broadened and the study of this period unified.

I. M. BRIDGMAN.

POLO, ILL.

[We give herewith the list of books referred to by Superintendent Bridgman, with publishers and prices. Some of our readers may wish to procure one or more of them.

Myers, *General History*. Chicago: Ginn & Co. Price \$1.50.

Yonge, *History of France*. Cincinnati: American Book Co. Price 35 cents.

Freeman, *General Sketch*. New York: Henry Holt & Co. Price \$1.10.

Sime, *History of Germany*. New York: Henry Holt & Co. Price 80 cents.

Maine, *Ancient Law*. New York: Henry Holt & Co. Price \$3.50.

Andrews, *Institutes of General History*. Boston: Silver, Burdett & Co. Price \$2.00.

Hunt, *History of Italy*. New York: Henry Holt & Co. Price 80 cents.]

METHOD IN ARITHMETIC.

I. SUBJECT-MATTER.

1. The subject-matter of arithmetic is the number series as to the relations and properties of its numbers.

II. PURPOSE.

1. The careful cultivation of the powers of observation, discrimination, generalization, abstraction, inductive reasoning, deductive reasoning, and identification.
2. To develop in the child a new power of thought by which he may grasp the world of quantity "in the operation of making a vague whole definite."

III. STEPS.

1. The series of lessons involved in mastering the numbers from 1 to 100.
2. The series of lessons involved in mastering the fundamental processes, and the principles of each.
3. The series of lessons involved in the applications, as percentage, etc.

IV. THE SCOPE OF THE WORK FOR FIRST AND SECOND YEARS RESPECTIVELY.

1. First year.
 1. Numbers from 1 to 10 inclusive. Each is to be dealt with:
 1. As a whole;
 2. As to the relations in it;
 3. As to its appropriate fractional parts;
 4. As to its applications.
 1. Denominate.
 2. General.

QUESTIONS.

1. Would you teach any symbols this year? Why?
2. With what number would you begin teaching number? Why?

Note.—"It is clear that to promote the natural action of the mind in constructing number, the starting point should not be a single thing or an unmeasured whole, but a group of things or a measured whole."—*Psychology of Number*, by McLellan and Dewey.

2. Second year.

1. Notation of numbers from 1 to 10 inclusive.
2. Numbers from 11 to 20, inclusive. Each is to be dealt with:
 1. As a whole;
 2. As to the relations in it;
 3. As to its appropriate fractional parts;
 4. As to its applications.
 1. Denominate.
 2. General.
3. Notation of numbers from 11 to 20, inclusive.

V. RELATION OF WORK IN FIRST AND SECOND YEARS TO THE SUBJECT-MATTER, PURPOSE AND STEPS IN ARITHMETIC.

(See pp. 82-85 and 63-67, State Course of Study, for further suggestions in Arithmetic.)

The work for the second Township Institute for

the year 1896 and 1897, along the line of *Method*, is method in arithmetic. The teachers will find valuable suggestions on this topic by referring to the contributions by Professor S. E. Harwood, in the first two volumes of this journal, and by a careful study of the book referred to by the writer of the outline—*The Psychology of Number*, by McLellan Dewey.

The writer of the outline has stated thoughtfully and well some of the general points under method in arithmetic, and indicated the work for the first two years in harmony with those statements. I wish to offer some explanations and suggestions upon some of the points in the outline, which may help some teachers to a clearer understanding of them.

The first step in arithmetic is stated as follows: "*The series of lessons involved in mastering the numbers from 1 to 100.*"

This first step might be put more strongly by saying that it is to be, practically, the mastery of the law or principle of the number series, both as to ideation and notation. When the pupil has mastered the number series to hundreds, he is also to master it to hundredths. This step is the first great move of the pupil into the realm of number, and the whole step embraces about the first three years of work.

The first year's work, as outlined, involves the mastery of whole numbers to eleven, and of fractions to elevenths. We may suggest the nature of the work in this year by showing the points to be presented concerning a given number. We shall take for example the number *four*:

1. The number four as a whole.

This assumes that the pupil has mastered the ideas three and one. Then, to know four as a whole, he must think three and one united, then think this new combination as four ones of the same kind (primary units), and then associate it with its oral name. (Later with the printed word *four*, but not with the figure 4.) This he should do with various objects, until he has grasped, distinctly and clearly, the idea.

2. As to the relations in (not of) it.

a. Synthetic.

(1.) Addition, as—3 and 1 are 4.

2 and 2 are 4.

1 and 3 are 4.

1 and 1 and 1 and 1 are 4.

(2.) Multiplication, as—4 ones are 4.

2 twos are 4.

1 four is 4.

b. Analytic.

(1.) Subtraction, as—4 less 1 is 3.

4 less 2 is 2.

4 less 3 is 1.

(2.) Division, as—

4 divided by 1 is 4 (ones).

4 divided by 2 is 2 (twos).

4 divided by 4 is 1 (four).

(3.) "Appropriate fractional parts," or what may be called the second phase of division, as— $\frac{1}{4}$ of 4 is 1 (one).

$\frac{2}{4}$ of 4 is 2 (ones).

$\frac{3}{4}$ of 4 is 3 (ones).

$\frac{4}{4}$ of 4 is 4 (ones).

$\frac{1}{2}$ of 4 is 2 (ones).

$\frac{3}{4}$ of 4 is 4 (ones).

So $\frac{1}{4}$ if thought best.

NOTE.—The exact order in which the above relations are taught is not essential, but the teacher should always have in mind the one he expects to teach in a given lesson. These relations should be taught by means of objects, and dwelt upon until the pupil knows them thoroughly.

3. As to its applications.

a. Denominate. By this is meant the application of the idea four to the units of measure that involve it; as, 4 gills make a pint, 4 quarts make a gallon, 4 pecks make a bushel, 4 weeks make a month, etc., and in words which involve the idea four; as, *quarto*, *quartet*, etc. This affords an opportunity to fix more clearly the idea four and all the relations in it, and, also, to give the pupils, incidentally, a firm grasp of the units of measure afterwards met with in the tables of denominate numbers.

b. General. In the general applications, the idea four and its relations are shown in stories involving any objects with which they may be dealing in other studies, or that they are familiar with at home, on the streets, in the fields, or in the school-room. For example: A little boy says, "My father has two black horses and two white horses, and has, altogether, four horses." A little girl says, "Our rose-bush had four roses on it, and I took one off, and then there were three roses on the bush." The force of these means is to illustrate the ideas and relations to the pupils, and to test their grasp of the points, by having the pupils put them in these stories.

4. As to the corresponding fraction.

When the work with the whole number and its relations are dealt with, then the pupil is ready to deal with the corresponding fraction. If he has mastered four, then he is ready to deal with one fourth (of one) under the same points; viz., as to its idea, the relations in it, and its applications; the procedure being similar to that under four.

The question of teaching the symbols, or figures, for the numbers taught in this first year, has two reasonable views:

1. When the pupil has mastered the idea or relation, and associated it with its appropriate oral expression, it may be said that his mind is then

ready to make the association with the visible expression, and that that step logically follows; and so it does.

2. It may be said that the pupil does not need to use the visible symbols, or figures, during the first year, and that they appeal to his senses and, therefore, easily engross his attention and thus become an impediment to his mastery of number ideas during this first year.

I am inclined to sympathize with the latter view, because the object is to impress the pupil first with number ideas and relations; and since he does not need symbols in the first year, and since they are sensuous, and it is easy for the mind to become engrossed with them instead of the reality, I believe it is stronger work to waive the teaching of figures, at least for a time. Besides, when you do turn the attention of the pupil to the figures, there is a better opportunity to impress them upon the mind as mere symbols standing for the reality.

The question of what number to begin with cannot be answered by naming a number. The first step is to determine where the pupil's knowledge of number ceases. If the teacher finds that the pupil knows two in all ways named above, then test him upon three. If he knows the idea three, but does not know all of the relations in it and their applications, then that is the place to begin. Begin where the pupil's ignorance begins.

The work of the second year is, in the main, similar to that of the first in dealing with the numbers and the corresponding fractions. There are two features which need special attention, which do not occur in the first year:

1. The mastery of the arithmetical expression for the number ideas and number judgments. The first thing to be done in this second year is to teach the figures as standing for the number ideas learned in the first year. This involves the same mental process as in teaching the printed word as standing for its idea; viz., rethinking the number idea; thinking the symbol; and associating strongly the idea and the symbol. Then the symbols for the number judgments, so that the pupil from this time on, may be able to express his number ideas and judgments in appropriate arithmetical symbols.

2. In this second year, and after the number ten is reached, the pupil begins to master the double ideation and notation of numbers. For example: He learns twelve as twelve units of the same kind (primary units), and then learns twelve as one ten and two units, and sees the relation of the two kinds of units. Then he learns the symbol, 12, as a whole as standing for the idea twelve. Then

he learns the symbol, 12, as composed of two figures, each standing for a different kind of unit; the 1 standing for the one ten, and the 2 standing for the two units, and sees their place relation. This phase of the work requires very careful treatment, for out of it are the issues of the decimal system of numbers.

The work of the third year is not mentioned in the outline, but we speak of it because it completes the work on the first step in arithmetic as a *distinct* step. The nature of the work is similar to that of the second year, but it is with larger numbers and hence more complex, and the teacher would use means which would test the capacity of the pupils to a higher degree.

The secret of success in the first three years is thoroughness. The teacher should make haste slowly. As stated above, the work of the first three years is to give the pupil practically a mastery of the laws of the construction and expression of the decimal system. By the end of the third year the pupil should be thoroughly grounded in the number series and its notation through hundreds and hundredths (111.11). If this is done, the pupil has mastered one element of the subject-matter as stated in the outline, and has acquired the necessary basis for the mastery of the next step. He has, also, had trained, to some extent, all the mental powers named in the purpose.

In what we have said we have tried to show the opportunity which this first step affords for giving the child an insight into, and power to grasp, the "world of quantity." A. R. CHARMAN.

GRAMMAR.

I. DEFINITION.

1. Nature of, (1) as a process, (2) as a product.
 - a. Names the thing defined.
 - b. Puts it into the smallest known class larger than itself.
 - c. Sets it off from all other things in that class by giving a unifying attribute.

"An adjective is an attributive word which expresses an attribute of an object of thought and does not assert it."

When we say, "an adjective," we have named the thing to be defined. When we say, "is an attributive word," we have put it into the smallest known class. When we say, "which expresses an attribute of an object of thought and does not assert it," we have distinguished it from the adverb, which expresses an attribute of an attribute or of a relation, and from the attributive verb, which expresses an attribute of an object of thought and asserts it. As these are the only at-

tributive words aside from the adjective, we have distinguished the adjective from all other members of its class. Read the following:

1. "A New English Grammar," (Wisely) p. 39.
2. "Elements of Psychology," (Davis) p. 61.
 2. Quality of.
 1. To be good, a definition must be:
 - a. Logical.
 - b. True.
 - c. Helpful.
 - d. Inclusive.
 - e. Exclusive.

To fulfill the above requirements, a definition has only to comply with the three essentials given at the beginning of the outline under "1." No just criticism can be made on a definition having these marks. But if it fail to comply with one or more of these requirements, it is not logical, true, helpful, etc. The thing to be defined must be named for convenience in talking about it and so that one may know what it is we are trying to define. It must be put into the smallest class for thereby one finds out more of its attributes than if it were put into a large class. He has also fewer individuals from which to distinguish it. For example, if I say, "an adjective is a word," I know only a very few of its attributes. I know merely that it is a symbol standing for an idea; and if I attempt to separate it from the other members of its class, I find that I must separate it from the noun, pronoun, conjunction, and all other words. But if I say, "an adjective is an attributive word," I not only know more of its attributes than I did when I put it in the other class, but I have only two words now from which I must distinguish it—the adverb and the attributive verb. It is evident that in order to make the definition helpful, the class into which I put the thing defined must be a *known* class. If you bring me a thing and ask me what it is, and I say it is *Curare*, what good does that do you, unless you know what *Curare* is? You are no wiser than you were before, because you do not know what attributes to give to the new thing.

The teacher will find this phase of definition thoroughly discussed and illustrated in the July number of THE INLAND EDUCATOR, for 1896, under the title, "Science in the Teaching of English," p. 329.

3. The relation of the subject of definition to the subject-matter, purpose, and steps in Grammar.

Definition is one of the fundamental processes in education. There is no more helpful exercise for developing accuracy, power of discrimination, reasoning, etc. In a subject like technical grammar, a large part of the work is of this nature.

We define, divide into classes, and define again. Remembering the purpose of grammar as stated in the lesson for the first institute, the teacher will see how well adapted this work is for the accomplishment of the purpose. Definition gives us the relations of the thing defined. It gives us the general or universal side of the thing defined to put it into the smallest known class. When we distinguish it from all other members of that class we discover the individual or particular phase of the thing defined. This will indicate to the teacher,

4. The educational value of definition.

Read the following:

1. "Philosophy of teaching," (Tompkins) pp. 187-194.
2. "The Science of Discourse," (Tompkins) pp. 112-116.

The time spent in making definitions in grammar, however, will be worse than wasted unless the pupil is lead to see the definition in the thing to be defined. This means that the sentence—the unit of the subject—must be ever before the pupil. He must be lead to reason out every principle and law, and definition of the subject from the sentence. Then, if he should forget the definition, he can take a few sentences and think it out again for himself. A good discussion of how the child should be led to think out definitions for himself with plenty of good examples of the same, may be found in THE INLAND EDUCATOR for March, 1896, p. 89. Read also the following:

1. "A New English Grammar," (Wisely) pp. 3-6 and 36-38.
2. "Studies in the Science of English Grammar," (Wisely) pp. 3-6 and 26, 27.

LITERARY INTERPRETATIONS.

1. Describe and illustrate what is meant by literary themes being universal, ideal and emotional. In what two senses may a literary theme be said to be universal?

2. What is meant by the form in a literary selection? What is its function? How does it differ from the theme? What is its law in relation to the theme? Make clear at this point the distinction between prose, or didactic discourse, and poetry or literary discourse. Why is the formation of the picture an essential step in every reading lesson? What other step is also essential?

3. What is literary language? At what points does it make its appeal to the esthetic feelings? Why should a pupil be made sensitive to all the points of beauty in the language? In what ways may the imagery appeal to the esthetic feelings? Since the theme is an esthetic feeling, show how the language and the imagery are organically one with the theme, and aid to its full realization.

4. By way of review show how the idea of mental freedom takes care of all the forgoing aspects of a literary, or poetic production.

The work outlined above is treated at great length by Professor Tompkins in his introduction on The Nature of Literature. The principles advo-

cated are illustrated by numerous references to accessible literary selections. Additional comment is not needed on this phase of the work. Beginning, however, with an article on *The Vision of Sir Launfal* in the October number, we shall hope to present discussions on the selections used which will supplement, to a degree those of the book.

QUERIES AND ANSWERS

CONDUCTED BY SUPERINTENDENT J. C. GREGG,—
Brazil, Indiana.

All readers of THE EDUCATOR who are mathematically inclined are invited to take part in the discussions of this department. In order to facilitate matters a few simple rules should be observed:

1. Use paper of note size if possible.
2. Write only on one side of the paper.
3. Address all matter intended for "Queries and Answers" to Superintendent J. C. Gregg, Brazil, Ind. This will save time which in the competitive work is often of consequence.
4. Number all solutions to correspond with the problems.
5. Condense solutions as much as is consistent with clearness.

PRIZE PROBLEMS.

FIFTH SERIES.

Answers to be in by October 15th. For the best set of solutions will be given a bound volume of THE INLAND EDUCATOR for the past year. This is a magnificent volume, bound in half leather, and well worth striving for.

1. Draw a chord in a given circle which shall be trisected by two radii which are perpendicular to each other.
2. The diameter of a floating ball is 30 inches, and its specific gravity is $\frac{3}{4}$: How far above the surface of the water will it rise?
3. Two different squares may be inscribed in a quadrant of a given circle: What are their areas?

SOLUTIONS.

PRIZE PROBLEMS, FOURTH SERIES.

1. The cost of 50 books at 5 cents each is \$2.50. Assume one book at 17 cents, then the remaining 49 books cost \$2.33. Find how many books costing 11 cents, 3 cents and 2 cents each can be bought so as to make a total of 49 books costing \$2.33. (See Ray's Higher Arithmetic). This gives four combinations, which together with one book at 17 cents, satisfy the conditions of the problem. In the same way assume, successively, 2, 3, 4, 5, 6, 7, 8 and 9 books at 17 cents each and find a total of 33 combinations. Ans.

B. F. SIMONSON, Brazil, Ind.

2. $28+19=47$ by first condition. $47\div19$ leaves 9, which is 6 less than the required remainder. Hence we must add to 47 a multiple of 19 which divided by 19 will leave a remainder 6, viz.: 196 $47+196=243$. $243\div15$ leaves 3, which is 8 less

than the required remainder. Hence we must add to 243 some multiple of 15 and 19, which divided by 15 will leave a remainder 8, viz.: 14×32 or 748. $243+748=991$. Ans.

F. E. WHITESIDE, Bloomingburg, O.

3.

Age of 1st cow.	No. Animals in Herd.
1 year	1. (A)
2 years	1. (B)
3 years	2. (C)
4 years	3. (D)
5 years	4. (E)
6 years	6. (F)
7 years	9. (G)

$D=C+A$, $E=D+B$, $F=E+C$, $G=F+D$, etc.

That is the increase of the herd for any given year is equal to the number of animals in the herd the second preceding year. By adding the increase from year to year the required number is found to be 1,873. Ans.

B. F. SIMONSON, Brazil, Ind.

CREDITS.

The following persons solved the problems indicated by the numbers opposite their names:

- B. F. Simonson, Brazil, Ind., 1, 2, 3.
F. E. Whiteside, Bloomingburg, O., 2.
W. T. Wright, Denison, Ia., 2, 3.
H. M. Broadbush, Connersville, Ind., 2.
M. M. Zinkman, Washington, Ind., 2.
J. C. Clark, Whipple Barracks, Ariz., 1.
Ira P. Baldwin, Crawfordsville, Ind., 2.
J. W. Whiteside, Bloomingburg, O., 1.
Ambrose McLaughlin, Headlee, Ind., 2.
M. A. Witter, South Bend, Ind., 3.
H. B. Burlingame, Sparta, Ind., 1, 3.
W. N. Vanacoyoc, Whitesville, Ind., 2, 3.

NEW PROBLEMS.

36. Two squares can be inscribed in a quadrant: Show that they are to each other as 5:4.

37. Two cog wheels work together, there being 32 cogs on one and 36 on the other. The larger wheel makes 24 revolutions per second. How often will the same cogs come in contact in one hour?

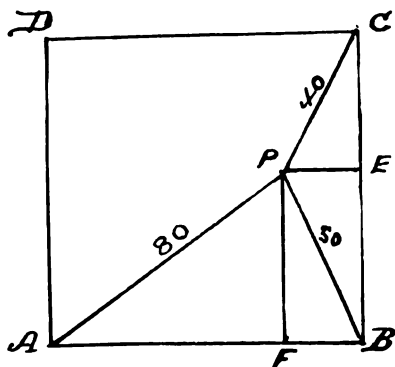
38. I have to be at a certain place at a certain time. If I walk 3 miles an hour I shall be 20 minutes late, and if I walk 5 miles an hour I shall be 12 minutes too early. How far have I to go?

39. Into a vessel in the form of an inverted cone, 24 inches in diameter and 36 inches deep, a twelve-inch ball is dropped. How much water will the vessel hold above the ball?

40. Find two numbers, the least possible, which divided by 408, 374 and 306 will leave the remainder 306, 136 and 204.

ANSWERS.

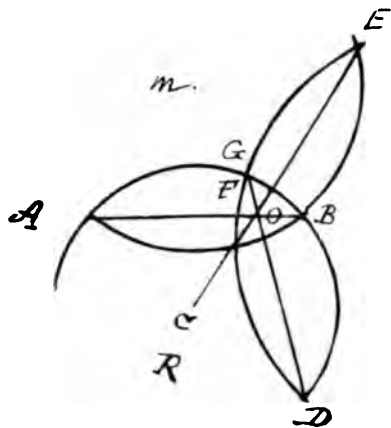
31.



A B C D = the square field whose side A B = X. Let P be the spring and P A = 80, P B = 50, P C = 40. From the triangle P A B we have $B F = \frac{X^2 + 50^2 - 80^2}{2 X}$, and from triangle P B C, $E B = \frac{X^2 + 50^2 - 40^2}{2 X}$, and since P E B F is a rectangle we have $B F^2 + E B^2 = P B^2$, or $\left\{ \frac{X^2 - 3900}{2 X} \right\}^2 + \left\{ \frac{X^2 + 900}{2 X} \right\}^2 = 2500$. $\therefore X = 85.18$ rods.

B. F. SIMONSON, Brazil, Ind.

32.



Draw the common chords A B and C E, meeting in O. Then draw D O and suppose it to meet the circle R at F, and the circle S at G. Then A O. B O = D O. F O, and D O. G O = C O. E O and C O. E O = A O. O B. Comparing these equations we see that D O. F O = D O. G O. $\therefore F O = G O$ and F and G coincide, and D O F is a common chord.

FRED RODENHAFFER, Avilla, Ind.

33. Let X=length and Y=width of the field, and we have $X^2 + Y^2 = 25600$ and $X Y = 9600$.

$$\therefore X = 40(\sqrt{7} + 1) = 145.83 \text{ rods.}$$

$$Y = 40(\sqrt{7} - 1) = 65.83 \text{ rods.}$$

B. F. SIMONSON.

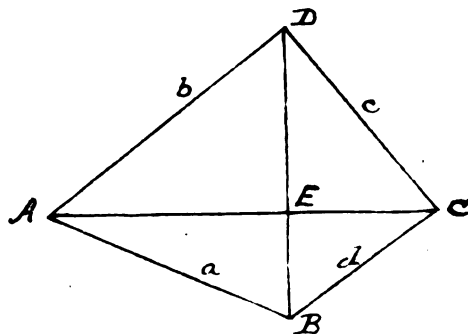
34. From the square of half the perimeter subtract the square of the diagonal and divide the remainder by 2 for the area.

$$\frac{(155)^2 - (125)^2}{2} = 4200 \text{ square rods.}$$

$$= 26\frac{1}{2} \text{ acres.}$$

Id.

35.



If the diagonals do not meet at right angles, two of the angles at E are acute and two are obtuse. Let the angles A E B and D E C be acute, and A E D and B E C obtuse. Then $a^2 < BE^2 + AE^2$ and $c^2 < DE^2 + EC^2$ and $a^2 + c^2 < BE^2 + AE^2 + DE^2 + EC^2$. . . (1). Also $b^2 > AE^2 + DE^2$ and $d^2 > BE^2 + EC^2$ and $b^2 + d^2 > BE^2 + AE^2 + DE^2 + EC^2$. . . (2). And from (1) and (2) $b^2 + d^2 > a^2 + c^2$ which is contrary to the hypothesis. \therefore the angles at E are right angles.

Id.

CREDITS.

Joshua Hayes, 32.

Fred Rodenhaffer, 32.

B. F. Simonson, 31, 32, 33, 34, 35, 36.

THE JUNE PROBLEM AGAIN.

A reader requests a solution to problem No. 1, in the Arithmetic list used in June examination.

We submit the following:

Let 100% = required payment. Then

\$6360 - 100% = principal for second year.

\$381.60 - 6% = interest for second year.

\$6741.60 - 206% = principal for third year.

\$404.496 - 12.36% = interest for third year.

\$7146.096 - 318.36% = principal for fourth year.

\$428.76576 - 19.1016% = interest for fourth year.

7574.86176 - 437.4616% = 0.

$\therefore \$7574.86176 : 4.374616 = \1731.5489 . Ans.

Ed.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

PUBLISHED MONTHLY AT
TERRE HAUTE, INDIANA.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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CHANGE OF ADDRESS.—When subscribers desire a change of address they should always indicate the old address as well as the new. We will change a subscriber's address as often as desired, but must insist that this condition be complied with.

REMITTANCES.—Remittances should be made by registered letter, Express or Post Office money order, or bank draft, payable to THE INLAND PUBLISHING COMPANY. In remitting for subscription it will be of great assistance to us if the name of the agent taking the subscription is stated. Always send remittances for subscriptions past due to us and not to the agent.

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Address all communications to

THE INLAND PUBLISHING COMPANY,
115 South Sixth Street,
Terre Haute, Indiana.

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A Personal Word. We are very glad at the close of another institute season to announce the wonderful progress which THE EDUCATOR has made. Our circulation is no longer confined to one or two states, but is beginning to extend pretty well over the country. Of course the great bulk of it is yet in the central States. This large number of subscribers makes it necessary that in requests for changes of addresses, discontinuances and remittances for subscriptions, care should be taken by our subscribers so that mistakes may be avoided. Past experience has suggested a few things to us along this line to which we desire to call attention.

1. Whenever you ask for a change of address always give the present address as well as the new one. Notwithstanding the fact that this point is kept continually at the head of our editorial column, it is an almost daily occurrence to have persons write us saying, "Please send THE EDUCATOR to ————." Our lists are entered by post-offices, and time is too valuable to spend several

hours in the attempt to find the name of the person who desires the change. The whole trouble could be easily avoided by remembering the simple rule: Always give your present address as well as the new one when change is desired.

2. In remitting for subscription never fail to send your name and address. We have received during the past year a great many money-orders unaccompanied by the name of the sender. It is always a great deal of trouble to find out who the sender is in order that proper credit may be given for the amount.

3. In remitting small amounts, it is more convenient for us to have money-orders than personal checks. We do not particularly object to the latter, but nearly all postoffices issue money-orders, and this forms a very safe and convenient way to send remittances. We receive quite a great many letters enclosing silver. This is a very unsafe plan, and the letters frequently reach us in damaged form.

4. Quite frequently, when for some reason or other THE EDUCATOR is a few days late at the beginning of the month, our subscribers begin writing us about the 9th or 10th that they have not received their papers. We are, of course, very glad to know of this great interest in THE EDUCATOR, but we ask all to note the fact that we are to have each month until the 12th to get THE EDUCATOR to you. It requires quite a good deal of time to print and bind a large magazine like THE EDUCATOR, especially when large editions are issued. With one exception since THE EDUCATOR started, it ought to have been in the hands of all subscribers by the 12th of the month as advertised.

The above are all little points, and yet a very great amount of trouble results from the failure of our subscribers to comply with them. We trust all will keep them in mind, and that we may all work together toward making THE EDUCATOR what it is fast becoming—one of the greatest educational forces in America.

* * *

The Institute Season. Another institute season is about over. The period this year in Indiana was shorter than usual. With a very few exceptions the ninety-two counties held their meetings during the six weeks beginning August 3, and ending September 11. Nearly fifty of these were held during the two weeks beginning August 24 and 31. That meant a demand for at least one hundred instructors during these two weeks. If the institutes could be more evenly distributed over the period during which they are to be held the supply of efficient instructors would more nearly meet the demand.

Value of Institutes. Institutes are a source of great profit and inspiration to teachers when properly conducted. It is a matter of great concern, that quite often persons are allowed to act as instructors who have not the slightest qualifications for the work,—persons whose knowledge of the subject-matter is very meager and unorganized, and whose insight into the pedagogics of the subject is limited to a hasty reading of some brief hand-book. While this imperfect work can still be found, it is a matter for rejoicing that the general tone of the work is of a high character. The county institute is not a place for the discussion of the details of the subject of study except as these details serve to illustrate and bring out principles. The teacher is able to master the facts by himself; if he is not, the short period of the institute is not sufficient to remedy his deficiency. He may, however, be led to see the relations existing among the facts in a clearer way, and, seeing these, know better how to teach the facts. We believe the Indiana institute, with its one week's session, and its emphasis of principles rather than details, is the true type. This idea is, of course, not peculiar to that State, but it has reached as high a grade of development there as in any. It is a sort of unwritten law that if a teacher shows his lack of interest in his profession by deliberately absenting himself from his institute without cause, he shall be placed on the retired list. And this is the proper way to dispose of the matter. Those who are teaching because they can not find anything else to do should go.

Closer Supervision. A discussion of the institute work naturally calls to mind the problem of closer county and township supervision. There is no doubt but we are approaching an era when this problem will receive the careful attention of educational thinkers. Agitation has already begun and promises to result in doing very much for the efficiency of the country schools. There are a great many difficulties in the way, however, which must first be overcome. The supervision of the country schools is left entirely to the Superintendent, and he is loaded with a great amount of clerical and routine work which makes it utterly impossible for him to give the matter the attention which its importance demands. His visits to the country schools are of necessity brief and far between. He is not able to stay in any one school-room long enough to see the quality of work done, and to point out to the teacher the weakness and strength of his work. We believe that the ideal thing would be a system of township supervision in which there would be one supervisor for each township. Perhaps an ap-

proach to this method would be to have three or four supervisors for each county who should each look after three or four townships. Even this step we believe is far in the future, and the one practical thing which can be done at the present time is to relieve the County Superintendent of much of his clerical work, and thus give him an opportunity to be what he ought to be, a supervisor of the work of the schools of his county. A Superintendent at the present time does not have time to plan the details of his course of study. Least of all does he have opportunity to see that it is made effective in the district schools. We are very glad, indeed, to know that the State Department is taking up this discussion and feel sure the result can only be good. We have pleasure in quoting here a portion of a letter, written from the Department to the County Board of Education in one of the larger counties of the State, where the question is being considered seriously.

INDIANAPOLIS, INDIANA, }
August 31, 1896. }

Views of the State Department.

During the past year the department has been doing everything in its power to place before the County Boards of Education, in the various counties of the State, the necessity of furnishing the children with good literature, such as is found in the Young People's Reading Circle books, and the importance of establishing township graded high schools for the country children; and also in the larger counties the importance of giving the County Superintendents assistance in carrying closer supervision into the country schools. In other words, dwelling on the latter point, it is impossible for one man in as large a county as yours to visit all the schools of the county more than once during the entire year, and I feel most certain that it will be impossible for him to attend *all of the schools one time*, considering the large amount of clerical work that he is called upon to do. I believe the time is near at hand when such large counties as yours will be compelled, if the country schools make much further advancements, to give the County Superintendent an assistant, or two or three assistants, if necessary. Some of the larger counties in the State are considering the advisability of dividing the counties into districts, say three or four, throwing from three to five townships into each district, and employing township supervisors of instruction. A good professionally trained man can be secured for such work at from five to six hundred dollars per year. This would be an outlay of from seventy-five to one hundred and fifty dollars per township, according to the number of townships which are placed in the districts.

The duties of such a man would be that of visiting the schools constantly, and helping to make the work of the poorest teachers in the district equal to that of the best in any other part of the county. He should be on the road constantly, and should be in constant communication with the County Superintendent, who would direct the work of these supervisors in all parts of the county.

I do not think of any movement at present that would add so much to the efficiency of the country school work as this. You could pay the expense out of the special school fund, basing the same on the number of school children in attendance from the townships in the districts.

Several of the larger counties in the State are discussing this question, and I think there is no doubt but that some of them will try the plan this year. The plan was tried with grand success in one of the counties last year, and will be repeated this year. Several of the larger counties that are not yet quite prepared to take this step, have agreed to give the County Superintendent deputies during the busy periods of the year. This would be a great help, but it would not take the place of the former plan.

I shall be very much pleased, indeed, if you, as a County Board of Education, can see your way clear to be one of the first counties to take advantage of this advance step. I am sure you could not build a more lasting monument to your success as school officers than that of taking closer supervision, good district libraries and free high school advantages to the children of the country districts of your county.

Wishing you unbounded success in the coming year's work, I am,

Yours very truly,

D. M. GEETING.

* * *

Confessions of Public School Teachers. Under this heading the July *Atlantic Monthly* has articles written by six teachers.

No. 1 has taught school thirty years. He began teaching to earn money to enable him to enter a profession. He has learned his pedagogy by experimenting on the children. He has encountered politicians and publishing companies in his work, but has held strictly to principle. He now has a salary of \$4,200 and has been successful. However, he closes his article by advising supervisors to do nothing, to take credit for all that is good and to blame the Board with all that is bad, saying, that in this way positions may be retained and salaries increased.

No. 2 came out of the war and took up teaching. He has always had good places, which he has held by reason of merit. Has always had plenty, has

educated his children, and is happy. But he says he has encountered the politician and believes that those who sell, and those who buy places are increasing in number. He believes that a new standard should be made for the selection of teachers, and that in this standard character and scholarship should be as four to one.

No. 3 is a widow, who, after three years of married life, was compelled to make a living for herself and father. She grew from a salary of \$65 per month to \$160, but laments at length the fact that teachers are not paid enough to take an extended trip each vacation and supply themselves with all the luxuries of life. She has tried to *idealize* her school and seems to have her heart in the work. She says she knew a normal graduate who was a failure, and seems to generalize from this one particular.

No. 4 taught three years in the district schools, and then attended a normal school, where politics interfered with the work. From this extended acquaintance with normal schools, he draws the conclusion that the atmosphere of normal schools is not one of scholarship, but of transitory fads and devices. However, he has succeeded in school work and holds a \$2,100 position at present.

No. 5 confesses that she is an excellent teacher, but politics has kept her from receiving her just dues always, and another teacher gets a larger salary than she does.

No. 6 taught school eighteen years, and then quit the business because he did not command more than \$1,500. He liked the work very much but could not afford to work for the salary.

It will be noticed that, possibly with one exception, these teachers merely drifted into the business—that it is not a profession with any of them; that they have been handicapped by politics and publishing houses; that the remuneration is not in keeping with their talents; that they have made great personal sacrifices by staying in the business. These are the kind of teachers that keep teaching from being a profession. In comparing teaching with other vocations they consider but one item, and that the item of money returns. The opportunities for self-improvement and for doing good in the world are lost sight of. We believe that, measured by the proper standard, teaching will compare most favorably with all other vocations. We have an idea that if the statistics could be reached it would be found that in remuneration it ranks alongside, if not above, the other professions; and leaving out the question of capital, which is necessary in business circles, it certainly outranks other callings. The fact is that teachers dishonor and belittle their own cause. He who honors his calling will find that it will

honor him, and in the long run he will be paid for his services; it may not be in dollars and cents but he will be paid.

The New School Year. This number of THE EDUCATOR reaches our readers just about the time that the new school year is beginning. A great many teachers are going into the school-room for the first time. The first week or two of a new teacher's life is a critical one. New teachers need all of the stimulating assistance which it is possible to give them in order to make sure of their best efforts. Recognizing this fact, THE EDUCATOR this month has three or four articles of special timeliness. In the first place, Superintendent Weaver of Marion, treats in quite an exhaustive way "Teaching as a Profession." A careful reading of this article is calculated to inspire teachers with the idea that their profession is a dignified one, and one not lightly to be entered into. Another article of peculiar value is the one on "The New Study," the study referred to, of course, being the systematic temperance teaching required by law. This article is full of practical suggestions. It is our intention in future numbers to treat other phases of the subject from other standpoints. Still, again, in the primary department will be found some suggestions by Mrs. Campbell in regard to various phases of the work which will present themselves to the young teacher.

It will be noticed again that THE EDUCATOR is devoting considerable space to suggestive notes upon the township institute work of the coming year. It is the intention to make this department of the greatest value to teachers. To that end the articles will be carefully prepared, and will not aim to duplicate the work already given in the outlines, but to add to and emphasize the points there made. One of the most valuable features of these discussions will be the constant suggestion of books which are either accessible or can easily be procured by teachers.

Our New Publications. As announced in our June issue, THE INLAND PUBLISHING Co. is an incorporated company, with a capital stock of \$20,000. Its primary business is the publication of THE INLAND EDUCATOR, but it proposes to issue, from time to time, standard works of value to teachers, as well as occasional volumes of a more general nature. A number of books are in course of preparation which it is hoped to have ready within the course of the coming year. One has just come from the press, which will undoubtedly prove of the greatest importance to teachers. It is *An Outline of Method in*

History, and is written by Professor E. W. Kemp, of the Indiana State Normal School. This book is the outgrowth of Professor Kemp's experience in several years' teaching of the subject, and is, in every sense, what may be termed a practical book. Unlike too many works on method, it does not deal merely with the general and abstract phases of the subject, but, having stated in clear and concise form the underlying principles of a course in history, a large portion of the book is devoted to making clear how these principles can be worked out through the grades. The plan of the work, numerous illustrations of actual class-room lessons, and selected lists of reference books, all tend to give the book great value. The view of the work through the grades which Professor Kemp takes, is quite at variance with that which is too often attempted in our schools. In substance, his view is that the true teaching of history would consist in having the child live through the experience of the race, and to this end the work is carefully planned, so that beginning with the earliest historic times, the typical nations are taken, and the work based upon their history. This idea is not worked out in any narrow way. Great attention is given to the history of our own country, but the work is so managed that the student may see our own country as the outgrowth of all the ages which have preceded. * * * * * THE INLAND PUBLISHING Co. has also just issued two volumes of poetry which will be sure to attract attention. The first of these is entitled *The Skeleton's Message, and Other Poems*, by Lydia Landon Elliott. This is a volume of really meritorious verse, and the book is printed in the very highest style of the art. * * * * * The second book is entitled *The Old Indian Orchard*, by Chester L. Fidler, and is a poetical rendering of the beautiful legend connected with what is known as the "Old Indian Orchard." Attention is called to our advertising pages for further account of these two books.

OUR LIBRARY TABLE.

Houghton, Mifflin & Co. have just published in their Riverside Library Series a new edition of *Evangeline*. This edition of the poem is by far the most complete and helpful ever issued. It has quite an extensive introduction on the life and writings of Longfellow by Mr. Horace E. Scudder, and a very interesting account of Longfellow's home life by his daughter, Miss Alice M. Longfellow. An historical introduction with a discussion of the measure in which the poem is written is also worthy of attention. The notes, which are prepared also by Mr. Scudder, cover all of the

really difficult points in the poem and are very suggestive. A number of illustrations and a map of the basin of Minas and the old Acadian land add to the great value of the book. Finally, a pronouncing vocabulary of the proper names and foreign words in *Evangeline* is added at the close. It is hard to think of anything else in the way of critical machinery which could really be helpful to the student of the poem.

One of the profitable results of the present agitation of the silver question, is a concise statement in the September *Review of Reviews* of the pros and cons of the question, "Would American Free Coinage Double the Price of Silver in the Markets of the World?" The affirmative view is supported by Charles B. Spahr, Ph. D., of New York, and the negative by Professor J. Laurence Laughlin of Chicago. Each of these writers is a recognized authority on the question of the standards.

The *Atlantic Monthly* for September is a number of unusual interest. Amongst other things there is an article by Charles Dudley Warner, telling the story of Uncle Tom's Cabin, and one by Booker T. Washington, on "The Awakening of the Negro." Professor John B. McMaster writes on "The Election of the President," and Professor W. P. Trent on "Teaching the Spirit of Literature." The *Atlantic* is making rapid strides to the front as regards timeliness in its articles. Its discussion of educational topics has been especially interesting to a great body of teachers.

The American Book Company has just issued three new volumes in its series of English Classics. These are: Homer's *Iliad* (Books I, VI, XXII, XXIV. 20 cts.); Tennyson's *Princess* (20 cts.); Franklin's *Autobiography* (35 cts.). The volumes of this series present the leading classics in good texts at a very reasonable price. The same house has also issued two new books by H. A. Guerber, lecturer on Mythology. The first is entitled, *The Story of Greece*, and is an interesting child's history of the great men and achievements of that nation. It is mainly in the form of stories about the prominent persons of Greece, so connected that a clear idea of the history results. The book is written in a charming style and presents a handsome appearance from a mechanical standpoint.

By the same author appears a very important book entitled, *Legends of the Middle Ages*, narrated with special reference to literature and art. This book is uniform with the *Myths of Greece and Rome* and *The Myths of Northern Lands* by the same author and issued by the same house. This book, as its title would indicate, deals amongst others

with the stories of the Nibelungenlied, The Holy Grail, The Round Table, The Story of Frithiof, The Cid, etc. The fact that modern literature is so full of allusions and references to these stories of the middle ages makes such a book of the greatest value to the general reader. The illustrations are very fine, including twenty-four full page plates in half-tone.

A series of books which will undoubtedly prove of great interest to our readers is the new Werner Geographies. These books are prepared by Superintendent H. S. Tarbell of Providence, R. I., whose work as an educator is well and favorably known all over the country. Superintendent Tarbell was formerly at the head of the Indianapolis schools and had much to do with placing them on their footing of great efficiency. These books were received too late for further notice in this number, but in our October issue we shall hope to treat them at the length which their merit deserves.

EDUCATIONAL INFORMATION.

Eliza G. Browning has been re-elected librarian of the Indianapolis public library.

L. M. Culp of Nappanee, Indiana, has been chosen special teacher of music at Bremen.

R. G. Young, formerly superintendent at Helena, Montana, has been elected superintendent at Rock Island, Illinois.

Joseph R. Huston, a graduate of Moore's Hill College, has been elected superintendent of the city schools at Aurora, Ind.

J. M. Black, supervisor of music in the schools at Washington, Indiana, spent his vacation at Chataqua and in Wisconsin teaching music.

Miss Rose Cox of Terre Haute, who has been in Cornell and Chicago Universities for the past two years, will study in Europe during the coming year.

Fred Mutchler, who was principal at Centerpoint last year, spent a portion of the summer vacation in Minnesota in the interest of THE INLAND EDUCATOR.

Professor R. O. Butterfield, who has had charge of the department of biology in the Indiana State Normal School during Professor Rettger's absence, will spend the coming year studying in Europe.

S. D. Steininger of White Pigeon, Michigan, a graduate of the State Normal, class of '94, and formerly an Indiana teacher, will have charge of the schools at Grangeville, Idaho, the coming year.

W. A. McBeth, a graduate of the State Normal in '95 and of Wabash College in '96, will teach at Longview the coming year. Mr. McBeth is in every way well prepared for the work of teaching.

W. E. Schoonover will be principal at Laurel, Indiana, the coming year. Mr. Schoonover is an experienced teacher, and for two years past has been a student in the Indiana State Normal School.

B. F. Simonson, of Brazil, whose mathematical talent is shown by the frequent appearance of his name in the list of winners in our Queries and Answers, will be a student at DePauw, next year.

Superintendent J. A. Carnegie continues in charge for another year at Columbus. A new four-room school building with all the latest features in heating, ventilation, etc., is just being completed.

J. B. Lamasters, who has taught in the township high schools in Johnson County for several years, is the new principal at Kewanna, Indiana. They have a new building there with all of the modern appliances.

Mrs. Emma Mont. McRae of Purdue University returned from her trip abroad early in August. Mrs. McRae is one of the most popular institute instructors in Indiana and has been spending the time since her return in that work.

James H. Stanley of Ridgeville, Indiana, has perfected a program chart for common schools which is regarded by those acquainted with it as of great merit. Mr. Stanley calls the attention of teachers to his chart in our advertising columns.

W. W. Black, who has been superintendent at Paris, Illinois, will do a year's work in Illinois University along scientific lines. During the past summer term Mr. Black had charge of the psychology work in the Northern Indiana Normal School at Valparaiso.

Miss Vivian E. Squier of Brookville, Indiana, died on Sunday morning, August 9th, at her home in that city. Miss Squier was considered one of the best teachers in Franklin County, and her death is a great loss to the profession as well as to a wide circle of friends.

Superintendent S. S. Parr of the St. Cloud, Minnesota, schools spent a short portion of his vacation in Indiana. Before leaving he made *THE EDUCATOR* office a pleasant call. Mr. Parr was formerly a member of the Indiana State Normal faculty, and later was connected with DePauw University as Dean of its normal department.

The Evansville *Tribune*, in a finely illustrated builders' edition, published August 6, has a fine account of the city school system. An extended account of Superintendent Hester accompanied by

his portrait speaks in glowing terms of his excellent work as superintendent. The schools are moving forward rapidly under his care.

THE EDUCATOR is pained to have to record the death of Miss Laura Ray, one of the critic teachers in the State Normal School, due to a fall from her bicycle on August 20th. Miss Ray had been a teacher in the Terre Haute city schools for several years before her connection with the Normal. She was highly regarded by all who knew her.

The October *EDUCATOR* will contain a program for Patriotic Day. This program has been prepared by the County Superintendents, through their committee, Superintendents Grant Gossett, L. S. Isham, and J. F. Warren. This day may be made one of the most pleasant and most profitable days of the school year. Every teacher can and should do something toward it.

Professor F. E. Mitchell, formerly of Indiana, but at present professor of geography in the State Normal School at St. Cloud, Minnesota, is spending a portion of his summer in Indiana doing institute work and visiting. Professor Mitchell is the author of a series of geographical monographs which are of great value. Attention is called to one of these in our advertising columns.

LaGrange and Noble Counties have made a departure from the usual custom of holding institutes. Superintendents Machan and Adair held a joint institute at Rome City, August 24-28. The instructors were A. W. Edson of Worcester, Mass., A. J. Kinnaman of Danville, Ind., and Wm. Miles of Ft. Wayne, Ind. There are many things to be said in favor of such an arrangement, and so far as we can see, very little against it.

In the *Iowa Normal Monthly* for September, we find a lengthy account of Superintendent E. A. Brown of Woodbury County, Iowa, who originally was an Indiana man. He was born in Morgan County, Indiana, in 1857, graduated at DePauw University in 1884, was professor of mathematics in Morning Side College, Iowa, for about four years following 1890, and has been County Superintendent since. He has about four hundred teachers under his charge.

The work in connection with the new Centennial Exposition at Nashville, Tennessee, is moving along nicely, and the exposition itself bids fair to be one of the most important ever held on a similar occasion. Its purpose is to celebrate the one hundredth anniversary of the admission of Tennessee into the Union. It will open May 1st, 1897, and continue six months. Such an exposition will be of great advantage in bringing the North and South together and making them more acquainted with each other.

Sandford Bell, for the past year superintendent of the schools at Aurora, Ind., has recently been elected to the position of teacher of psychology in the Northern Indiana Normal School at Valparaiso. Mr. Bell has had considerable experience in teaching, is a graduate of the State Normal School and has done quite a good deal of work in Indiana University. The Normal School at Valparaiso is to be congratulated upon securing Mr. Bell's services. On the 27th of August, Professor Bell was married to Miss Gertrude Sumption at Walton, Indiana.

The Jay and Adams County teachers indulged in an excursion to Rome City on Saturday, August 22. Both counties held their institutes on the week of the 17th, and this excursion was the closing up exercise. A very neat programme of the trip was issued, containing full-page portraits of County Superintendent J. F. Snow of Adams, and County Superintendent J. E. Bishop of Jay. A poem by A. J. Burdick occupies one page. General John B. Gordon gave his famous lecture on the "Last Days of the Confederacy," at the park. Such an outing cannot but be of very great value and interest to those taking part in it, and especially does it seem of interest for two or more counties to come together in this way.

MISCELLANY.

The Indiana Scientific Temperance Instruction Law.

as to the effects of alcoholic drinks and narcotics on the human system.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana.* That the nature of alcoholic drinks and narcotics, and their effects on the human system, in connection with the subjects of physiology and hygiene, shall be included in the branches to be regularly taught in the common schools of the State, and in all educational institutions supported wholly or in part by money received from the State; and it shall be the duty of the Board of Education and Boards of such educational institutions, the Township Trustees, the Board of School Trustees of the several cities and towns in this State to make provision for such instruction in the schools and institutions under their jurisdiction, and to adopt such methods as shall adapt the same to the capacity of the pupils in the various grades therein; but it shall be deemed a sufficient compliance with the requirements of this section if provision be made for such instruction orally only, and without the use of text-books by the pupils.

SECTION 2. No certificate shall be granted to any person on or after the first day of July, 1895, to teach in the common schools or in any educational institution supported as aforesaid, who does not pass a satisfactory examination as to the nature of alcoholic drinks and narcotics and their effects upon the human system.

SECTION 3. Any superintendent or principal of, or teacher in, any common school or educational institution supported as aforesaid, who willfully refuses or neglects to give the instruction required by this Act shall be dismissed from his or her employment.

SECTION 4. This act shall take effect and be in force from and after the 30th day of June, 1895.

* * *

The Library Section of the N. E. A.

A very important feature of the recent meeting of the National Educational Association was the organization of a library section. Teachers and librarians have been realizing more and more of late years the common ground they occupy as public educators. Careful consideration of the matter has shown the need of systematic cooperation between schools and libraries. The matter was finally taken up by J. C. Dana, president of the American Library Association, and a correspondence opened with leading educators. Active interest in the matter was awakened and a very strong petition was presented to the executive council of the N. E. A. asking for the admission of such a section into the Association. The matter was strongly presented by leading educational and library periodicals. Thus it came about that when the council met, as one of its number remarked, there was "not much else to do but to carry into effect the wishes of so large a constituency." At a meeting of the council on July 6th, the matter was presented by Melvil Dewey, state librarian of New York and secretary of the board of regents of the University of New York. The vote to admit the section was unanimous, and to such an extent was it favored that an amendment was adopted to drop the word "school," which was before "library" in the motion, and make the new department the library section; admitting librarians to membership as well as teachers. A meeting for organization was held in the Buffalo public library, Thursday, July 9th, with a large attendance. It was called to order by William H. Smiley, Denver, Col., and Melvil Dewey was appointed chairman, and William H. Smiley, secretary pro tem. Mr. Dewey stated briefly the character and purpose of the departmental organization of the N. E. A.; then a motion was carried to elect a president and secretary, the same to serve as an executive committee to arrange

for work the coming year. A full and free discussion, from the point of view of personal experience, followed, of the mutual relationship of school and library, of librarian and teacher. Dr. Russel of Colorado; Mr. Bishop of Illinois; Mr. Skinner of New York; Mr. Hutchins of Wisconsin; Mrs. Hall of Buffalo; Mr. Smiley of Colorado; Miss Schrieber of Wisconsin; Mr. Parsons of New York; Mr. Barbour of Illinois, and others took part. The permanent officers were appointed a committee to confer with the officers of the A. L. A. as to the best means for cooperation between schools and libraries. The time was fully occupied; much enthusiasm was displayed over the formation of the section, and altogether the matter was full of interest. A committee was appointed to select the permanent officers of the section, and reported for president, Mr. Melvil Dewey, secretary of the University of New York, well known to both teachers and librarians; vice-president, J. H. Van Sickle, superintendent of schools in district 17, Denver, Col., who has paid much attention in recent years to the use of books in school-rooms, and has lately established a small circulating library in every school-room district; secretary, Mary Eileen Ahren, Library Bureau, Chicago. The library section of the N. E. A. is a real fact, has a good start, and bids fair to accomplish the purpose which brought it into existence.

General Method.

In addition to what has been said already, a word further may be helpful. The teacher must realize that she is teaching children rather than subject-matter; children rather than men. This must not be forgotten. Logical sequence must be secured as far as possible, but in the daily work psychological sequence must take precedence. The organizing idea in all subjects is the life relationship involved. Studies should be as closely articulated as possible, yet they must be kept distinct in order to preserve their individual strength. Each subject must be made to help every other, and at the same time its individuality must be preserved. The teacher must recognize that while a fact may be a fact of geography and also of arithmetic or history, yet as a geographical fact it is clearly different from the historical fact or arithmetical fact. The school studies should be closely concentrated about the life of the child as the center of concentration. The continuity of the subject is to be preserved, and at the same time each detail of the subject is to be made to touch the life of the child when presented to it. This principle must be obeyed. The teacher must be careful to secure thorough apperception of ideas. The mind knows only in terms of what is previously known. The

teaching process is a process of building up the new idea out of the elements of knowledge already possessed by the pupil. There is no other way. The teacher must also look to the apperception of ideas in the broader sense of that term. The pupil must follow the connections of ideas on out toward such grasp that the pupil becomes master of the fullest significance of the thing which he studies. It is this broad apperception which gives scholarliness.—SUPERINTENDENT MILLIS, of Attica, in his Annual Report.

Dr. Harris's Response at the N. E. A.

"In the name of the National Bureau of Education I thank you for your kind welcome to the city of Buffalo. We have come here with interest and pleasure to see the great town that stands at the eastern gate of the vast inland sea of North America, just as Byzantium or Constantinople stands at the eastern gate of the Mediterranean. We have come to see the sources of your power and to confer with you on questions of method and policy in education. The leaders of education have heard of the new departure here in school management and in the higher training of teachers, and they have been looking expectantly to you for an interesting and instructive experience. In the few days of our visit with you we shall hope to discuss our problems in the light of principles and practical experiments. We are all earnest in our search for an education that will best succeed in helping children to help themselves. We do not intend to raise up a governing class separate and apart from the class to be governed. The people shall be the law-makers and the rulers, and at the same time they shall be ruled by the laws, obedient to their self-chosen government and respecting the laws that they have made. The school best fits for this life of free citizenship by its strict discipline, its orderly conduct, its instruction in the symbols of thought, its initiation into letters and technical expressions which have been used to preserve experience and wisdom of civilized people.

"Two great objects are secured in our elementary, secondary, and higher education. On the one hand, the child learns how to conquer and subdue the forces of nature—how to make these subservient to rational ends. Natural science and mathematics place in his hands the mastership over those tools of thought which lay a spell on the organic and inorganic production of the world, and turn them into wealth and means for spiritual progress. On the other hand, education in the school gives the pupil an insight into the nature of his fellow-men. He learns their motives and springs of action. He becomes familiar with their feelings and convic-

tions and the grounds for them. This enables him to step forth as a citizen, able to contribute to the formation of a healthful public opinion and to adopt and execute its behests. Our school-educated population shall be less and less given to sudden gusts of passionate impulse and more and more given to deliberation. Let us rejoice that we are met with you here in these summer days, in your delightfully cool and health-abounding city, to confer on these important themes of our profession."

* * *

Horace Mann. "We can build no monument to such a man. He built his life into the lives of the people and his memory will abide forever. He possessed the true spirit of teaching in his patient endurance, self-sacrifice, and self-consecration. Horace Mann was distinctively an American in all his instincts. The tendency of the present day to overload the intellect at the expense of the moral nature is criminal in the extreme, and must result disastrously in the end. The course of study must be enriched on the side of the heart rather than the head. In all Horace Mann's writings he makes very prominent the thought that as we strengthen the intellect we must also quicken the conscience; that as we add to the impulsive we must also add to the regulative powers. An intellectual class with no love of man in their hearts, and an ignorant and depraved class with no fear of God before their eyes, form a dangerous state in society."—State Superintendent Sabin.

* * *

Function of Nature Study. "Love of nature must be inculcated before the beginning of nature study. Love of nature must be made the first postulate and chief object. Science, art, literature, and religion are the four branches of study between the kindergarten and the university. The love of nature is the basis of the study of science. I think we can sum up this topic by saying that the beginning of all education must be the love of nature. Nature is not materialism. Nature by all those who study her to-day is regarded as spiritual. She is the veil to all the hidden study-mysteries. Nature study is the dominant note in education. We are living in the great renaissance of nature study. People are getting back to the primal sources of life."—President G. Stanley Hall.

In every work regard the writer's end,
Since none can compass more than they intend,
And if the means be just, the conduct true,
Applause in spite of trivial faults is due.

—POPE.

INDIANA STATE BOARD QUESTIONS FOR AUGUST, WITH DISCUSSIONS.

GRAMMAR.

(Any six.)

"The cause of American Independence was now to be presented to the world in such a manner as to engage its sympathy, to command its respect, to attract its admiration."

1. Give the entire subject of the above sentence; the entire predicate.
2. Select the adjective phrases; state case of each noun, and give the principal parts of the verbs used in the above sentence.
3. Give synopsis of the verbs "ring" and "caught" in the third person, singular, subjunctive mode.
4. Define grammar as a science; as an art.
5. "The marks of a good definition are three.
 1. Name the thing defined.
 2. Put it into the smallest known class.
 3. Give the marks or characteristics of it which set it off from all other members of that class."
 Observing the "marks of a good definition," define noun, adjective, pronoun, and verb.
6. Define a clause. Define a principal clause. Define a subordinate clause.
7. Compare and contrast synopsis and conjugation.

1. The entire subject of the sentence is "The cause of American Independence;" and the rest of the sentence forms the entire predicate.

2. The adjective phrase in the above sentence is "of American Independence." "Cause" is nominative, subject of the sentence; "Independence" is objective after the preposition "of;" "world" is objective after the preposition "to;" "manner" is objective after the preposition "in;" "sympathy" is objective, object of the verb "engage;" "respect" is objective after the verb "command;" "admiration" is objective after the verb "attract."

Principal parts of the verbs: present, presented, presented; "engage," "command" and "attract" form their principal parts regularly in like manner by adding "ed" to the present.

3. Present—If he ring; if he catch. Past—If he rang; if he caught. Past Perfect—If he had rung; if he had caught.

4. As a science, grammar deals with the laws and principles which underlie sentence construction; as an art, it aims to enable the student to acquire the successful use of the sentence as an instrument in expressing his thought.

5. The noun is a substantive word that expresses an object of thought by naming it. An adjective is an attributive word which expresses an attribute of an object of thought without asserting it. A pronoun is a substantive word that expresses an object of thought without naming it. A verb is a word which asserts, or, a verb is a word which expresses relation between thought subject and thought predicate.

6. A clause is a group of words having a subject, predicate, and copula, and used as a part of a more comprehensive sentence. A principal clause is a clause which is not used in the sentence with

the value of a single word. A subordinate clause is a clause which is used in the sentence with the value of a single word.

7. The conjugation of a verb is the giving of all the forms for the different modes, tenses, voices, persons and numbers; the synopsis of a verb is the giving of these forms in a single person and number.

(For the above definitions and statements we are indebted, for the most part, to Wisely's New English Grammar.)

READING.

1. Read a selection to the County Superintendent. 50
2. Show how the subject of reading may serve to develop and strengthen the mind of the pupil. 10
3. Illustrate, by using the word "hat," how the pupil may be put in condition to help himself in learning new words. 10
4. When may the children begin to get thought from reading? Give example. 10
5. Distinguish between primary and advanced reading. When in the course of study would literary interpretation properly come? 10
6. a. State fully the extent of the assignment of reading lessons in the second and third years. b. What is the real purpose of the oral reading of a selection by the members of a class? 10

2. Reading may serve to develop and strengthen the mind of the pupil by means of the ideas presented, or by means of the effort of mind required in the interpretation of the given selection.

3. The answer to this question may be found somewhat in detail in the introduction to the Indiana First Reader. If the child becomes acquainted with the word "hat," when he takes up a word that has some part of it similar to this, as "mat," he will at once know the last part of the new word and has only one additional sound to get.

4. The question is a very indefinite one, or rather, it is impossible to give a very definite answer to it. As soon as he is acquainted with a number of symbols, they may be so arranged that the process of reading results in thought getting.

5. In primary reading the learner is proceeding from meaning to form, from the idea or thought which is already in his mind, to the word or sentence which expresses it. In advanced reading the movement is the reverse of this. Later the interpretation, in the sense in which that term is usually understood, would be a prominent part of the seventh and eighth year's work. In its simpler forms, of course, it should begin early in the grades.

6. (a) Assignment in the second and third years should extend only to very simple and definite questions which will direct the mind of the child in grasping the thought of the lesson. The nature of the lesson and of the class must determine just what this assignment will be. No definite laws can be laid down.

(b) The most important purpose of oral reading is to determine whether or not the meaning of the selection is understood. Of course there are other purposes by no means unimportant, such as the acquirement of mastery over the organs of speech, etc.

GEOGRAPHY.

(Select No. 7 and any other four.)

1. How have water and ice assisted in bringing about the present condition of the surface of the earth?
2. How are deltas formed? Name three important deltas in the world?
3. To what causes is the long winter polar night due?
4. What geographical causes produce the difference between the South American Pampas and the Asiatic Steppes?
5. Why are the winds that strike the south side of the Pyrenees warm, moist winds, while those on the north are dry and cold?
6. What countries constitute the three great peninsulas of Southern Europe? Historically, which is the most interesting? Why?
7. "In the sixth and seventh years the aim of geography * * * should be the study of man in the various parts of the globe, living in different zones, surrounded and affected in his institutional life by different climatic conditions, mountains, plateaus, valleys, oceans and inland waters."—State Course of Study. Discuss the above.

1. Water and ice have been the chief agents of land sculpture. By disintegration, transportation and deposition they have worked over and redistributed the materials of the earth's crust, and have been the direct agents in the formation of soils and sedimentary rocks. For various reasons this work has been unevenly distributed, and every detail of relief, from the highest mountain peak to the deepest canyon, is due to unequal erosion by water and ice. To them we owe the endless variety, and consequently the beauty, of the surface of the globe.

2. By the deposition of sediment by streams when their velocity is checked on entering a body of still water. The Mississippi, the Nile, the Ganges-Brahmapootra.

3. To the inclination of the earth's axis and the revolution of the earth around the sun.

4. In general, the difference of elevation and the difference in the size of the land masses. These are both excessive in Asia, producing an extreme phase of the treeless condition.

5. This question asks for an explanation of conditions which do not exist. The south side of the Pyrenees is relatively warm and dry because it slopes toward the sun and some of its winds blow from a warm and arid region. The north side is relatively cool and moist because it slopes from the sun and is more directly accessible by the winds from the Atlantic. The north side has more forest and a lower snow line. The contrast is much greater east and west than north and south. The Eastern Pyrenees are wild, naked, and without glaciers. The Western Pyrenees, on

account of their proximity to the Atlantic, have glaciers along their crests and are heavily forested toward the base.

6. Greece, Italy, Spain and Portugal. Greece is interesting as having been the seat of an early civilization, and later of the highest artistic, literary and philosophic culture known to history. Italy is interesting as having been the seat of the Roman Empire, which dominated the known world for a thousand years.

7. The main chain of the geographic argument leads from the earth's surface to man. If the structure and relief of the solid earth, the circulations in the oceans of water and air, the nature and causes of climate, the distribution of plant and animal life as determined by relief and climate,—if the distribution of all these phenomena in their mutual dependence has been studied, it is time in the sixth, seventh, or any other year, to take up the last link in the chain, and to study the relation of man to his physical environment. If the preliminary steps have not been taken, and the relation of the non-human factors of that environment have not been clearly conceived, an attempt to study the human relation in any year will necessarily be a failure.

ALCOHOL AND NARCOTICS.

Write a composition of 300 words on the subject of Alcohol and Narcotics, discussing:

1. The physical effects.
2. The moral effects.

Among the better known narcotics are alcohol, chloroform, opium, hemp, betel, tobacco, coca, thornapple, and henbane. The principal narcotic is alcohol. Entering the mouth it increases abnormally the flow of saliva and thereby weakens it. Reaching the stomach it has a like effect on the gastric juice. While in the stomach it coagulates the albumen in foods, retarding digestion. But the alcohol having a great affinity for water, soon passes into the blood vessels and lymph vessels. In these vessels the alcohol absorbs water and creates the unnatural thirst common among drinkers. It also absorbs oxygen from the blood greatly to the detriment of the oxidation processes. It interferes with the working of the liver and kidneys causing poisons which should be eliminated to remain in the system. In the heart, the alcohol causes degeneration of the muscular fiber, enfeebling the power of the heart to propel the blood. In the lungs it causes alcoholic phthisis. It temporarily paralyzes the brain. The membranes enveloping the nervous substance undergo thickening. The blood vessels are dilated, thereby taking away their elasticity which is so important to proper heart beating. Alcohol causes fatty deposits about the liver and heart, greatly interfering with these organs. It lowers the temperature of the body.

Alcoholic drinking lowers the whole plane of physical health. It preserves waste tissue as shown in the unnatural bloating of beer drinkers. It predisposes the drinker to attacks of fevers and other maladies. As is stated by Gustafson: "These derangements are attended with baleful visions, impure fantasies, weariness of self and disgust with life; the whole hydra evil culminating in idiocy, insanity, and temptations to and commission of all kinds of crimes and sensualities, theft, incendiarism, suicide, and murder." As to its moral effects, alcohol destroys the will power, moral perception, conscience, affection, self respect and regard for others.

ARITHMETIC.

(Any eight.)

1. Discuss the idea and respective relations of cent, nickel, dime and dollar, and \$1.00, \$2.00, \$5.00 and \$10.00 bills, as to a pupil ready for such work.
2. At what time in the course of study should the pupils be given some practice in making and receipting bills? Indicate such a bill as you would use, and also the grade to which you think it applicable.
3. Through what observation and question would you lead a pupil to the discovery of method for finding the area of a rectangle, a right angled triangle? Indicate.
4. An irregular piece of land, containing 540 A., 36 sq. rd., is exchanged for a square piece containing the same area. This was divided into 42 equal squares, what was the length of the side of each?
5. What is the difference between the simple interest and the bank discount of \$450.00 at 5% for 6 yrs. 10 mon?
- 6.

PRIN.	RATE	INT.	TIME.	AMOUNT.
?	5	?	2 yrs. 3 mo. 10 da.	\$1,893 61½
\$9,750 00	12	\$780 00	?	?
\$1,700 00	?	\$10 58	28 days.	?

7. Find the cost of three pieces of timber, each 26 feet long and 6 in. by 9 in., at \$1.75 per hundred board feet.
8. What will it cost to gild a 14-inch cube at 4½ cents a square inch?
9. A man owes a debt of \$6,400.00 due in 8 months. By paying it now he will be allowed 5% off, and he can borrow this money at 5% per annum. How much may be gained by borrowing this money to pay the debt?

1. A cent has the least value of any piece of money which we use. A nickel is worth as much (i.e. will buy as much) as five cents. A dime is worth as much as ten cents or two nickels. A dollar will buy as much as one hundred cents, twenty nickels, or ten dimes. A \$1.00 bill is an agreement by which the government agrees to pay one dollar in coin value, to the holder, according to the terms of the bill. Since the government fulfills its agreements a \$1.00 bill is worth one dollar, ten dimes, twenty nickels, or one hundred cents. \$2.00, \$5.00 and \$10.00 bills are the same excepting difference in value. Samples should be used and the distinguishing marks brought out.

THE INLAND EDUCATOR.

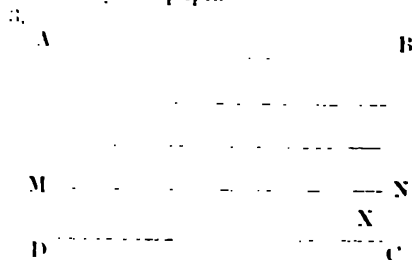
2. Not before the fourth nor later than the sixth. This would be suitable for any of the three grades. Have the pupils put the bill in about this form:

Mr. John Jones, Kansas City, Mo.,

Bought of W. D. Morris & Co.

6	Doz. box saws	\$1.50	8	++	++
4	Kegs nails	\$3.14	7	++	++
7	Doz. box stacks	40		++	++
9	Hand saws	95		++	++
					\$87.92

The "++" indicates the amount of each item and the "\$" indicates the total amount. These should be filled out by the pupil.



Have the pupil understand that all areas are measured in terms of square units.

Let $ABCD$ be a rectangle whose length is seven units and whose width is four of the same kind of units. Let the square, N , have its sides equal to these units; then the area of $N = 1$ sq. unit; but $ABCD$ contains seven squares the size of N ; its area is seven sq. units. But $ABCD$ contains four rectangles the size of $DMNX$; i. e., the area of $ABCD$ is 28 sq. units. Then since the length of the rectangle $ABCD$ is 7 units and its width is 4 units, its area is the same as the product of its two dimensions. As to the right triangle, show the pupils that every right triangle is the half of a rectangle having for its two dimensions the legs of the right triangle; i. e., the area of a right triangle is one-half the product of the two legs.

The problem is impossible, for a square field cannot be divided into 12 equal square fields.

There is no difference.

IN.	RATE	TIME	AMOUNT
1,000	5	5 yr. 3 mo. 10 da.	\$180,500
100	12	8 mo.	\$10,500
100	18%	28 days	\$170.58

A piece of timber 26 ft. by 6 in. by 9 in. contains much lumber as a plank 26 ft. by 1 in. by

34 in. or 4 ft. Then one piece would be 127 ft. $26 \times 4 = 104$ in board measure, and the pieces would contain 381 ft. (3×127) in board measure. $381 \times \$1.75 = \666.75

8. If it is a 14-inch cube, the area of each of the six faces is 196 sq. in. i. e., the six faces would have an area of 1176 sq. in. This at 4¢ per sq. in. would cost \$47.04.

9. If the man were allowed 5% off from \$100,000 would pay the debt. This borrowed \$100,000 for 8 mo. would amount to \$102,800. The gain would be \$100,000 - \$102,800 = \$117,200.

SCIENCE OF EDUCATION.

Short No. 8 and any other four.

1. Is it apperception?
2. How is apperception different from perception? Show that, logically, all perception involves apperception.
3. An ignorant, illiterate man and a great botanist look at a plant, perceive it with equal clearness. Which would have the larger and richer apperception of the object, and why? What do you consider the true aim of object lessons in school?
4. Do you see any important distinction between apperception and association? and if so, what?
5. To acquire new knowledge is to know something in terms of that which we already know. Does this involve the principle of apperception? Explain.
6. In what sense will one's previous perceptions and apperceptions determine what he will see and give attention to when surrounded by an environment relatively new?

1. Apperception is that activity of mind in which the meaning or significance of sensory elements is brought out. It is the interpretation of the sensuous material presented to the mind in the light of one's past experience.

2. Apperception is the meaning side of perception just as it is of every mental act. The characteristic of perception is that it deals with actually present particular things; in this process there are three steps: (1) The presentation of the sensory elements standing for these particular things. (2) The interpretation of these sensory elements in the light of past experience. (3) The assimilation of this activity by the organized self. Apperception is the second of these.

3. There is first the presentation, or existence side, or sensation, in every perceptive activity. Then comes the reading of meaning into this presentation in accordance with what one is. A thing is and means.

4. The illiterate man and the great botanist, under normal neural conditions, have the same presentation or sensation in looking at the plant. The botanist must have the larger and richer apperception of the object because he has the larger fund of plant experience to bring to its interpretation.

5. The true aim of object lessons is to aid in thought; they should strengthen the child in this direction.

6. Association may be considered as the simplest

stage of apperception; it is that stage in which the activity of the mind in interpreting presentations seems almost passive and mechanical and externally determined.

7. Yes, this is apperception. We can only know in terms of what we are. It's the old question of proceeding from the known to the nearest related unknown.

8. In the sense that one is most interested in those things that have most of self in them. They mean most to him, and are in keeping with his nature.

THE TEMPEST.

1. Near the close of Act III Ariel says:
"I and my fellows are ministers of fate, etc."
With the text before you quote any lines that seem to you to teach the doctrine of repentance as a means of freeing one's self from the effects of his evil deeds.
2. Read carefully the last utterance of Alonso in Act III, beginning:
"O, it is monstrous, monstrous!
Methought the billows spoke and told me of it,"
and tell what state of mind is here expressed. Find other passages bearing upon your answer.
3. What view of the family as an institution of society does Prospero set forth, especially in the first part of Act IV?
4. What is the significance of the great pageant which Prospero provides after the union of Ferdinand and Miranda?

1. Ariel, in a speech beginning as indicated, places clearly before the criminals their evil deeds. Having done this, and having brought them, it would seem, to a realization of the nature of their sins, he closes by telling them what it is that will save them, namely,

"Nothing but heart sorrow and a clear life ensuing."

2. The state of mind expressed in the passage quoted from Alonso is that of remorse. He is so filled with this feeling that it seems to him that nature is taking the part of an avenger and keeping clearly before his mind his evil nature. The passages immediately following bear upon the same idea. Gonzalo, a moment later, says:

"All three of them are desperate: their great guilt,
Like poison given to work a long time after,
Now 'gins to bite the spirit."

Just before the passage quoted Prospero, speaking of the effect of Ariel's magic upon them, says:

"My high charms work,
And these mine enemies are all knit up
In their distractions."

3. Prospero dwells especially at this point upon the sacredness of the family as an institution, and upon the necessity of the ethical element which must enter into all true emotion.

4. Whether or not the great pageant which Prospero introduces after the union of Ferdinand and Miranda has any symbolical meaning is difficult to determine. Its dramatic purpose at this point is easy to see. Amongst other things that might be mentioned, it indicates Prospero's great power as a magician, serves to bridge over the

time while the drunken conspirators are getting their plot perfected, serves as a kind of resting spell for the reader, thus adding emphasis to what goes before and what comes after, by contrast, and finally, it contributes to the demand on the part of an Elizabethan audience for a spectacle.

HISTORY.

(Select No. 5 and any other four.)

1. What is history? What is the end in the teaching of history?
2. Give a suitable line of History work for second, third and fourth years.
3. Why is the Colonial Period so important? Politically, which is the most important idea of the Colonial Period?
4. Give a date which approximates the beginning of "the period of union for national life and growth." Give reason for date selected.
5. "Every great leader, every invention, every great movement, every new industry should be classified upon the basis of the institutional idea in it, and must be interpreted in the light of its influence on each of the great lines of growth."—State Course of Study. Discuss the above quotation.
6. Discuss the growth of the idea which resulted in the adoption of the Constitution.

I. History may be defined as the life development of a people, or as the change, the movement, the progress which occurs in the life of a people. The end in the teaching of History is to have the pupil live through this gradual growth or development and fully understand it.

2. The State Manual suggests that the history work for the second and third years should be: The nature, growth and advantage of institutional life as seen in the study of Robinson Crusoe, and home observations. It further suggests that the history work for the fourth year follow some such trend as this:

First Part. The essentials of government and the necessity for it as seen in family, school, town, township, county and business.

Second Part. The study of Lief the Fortunate, Columbus, King Phillip, Roger Williams and William Penn in the light of the institutions they represent.

Third Part. The study of Franklin, Washington, Jackson, Lincoln, Grant and Garfield in the light of the institutions they represent.

Professor Kemp, in his *Outline of Method in History*, presents the idea that the child, through the work in the grades, should in a general way live through the experiences of the race as exhibited in its typical experiences, and to this end suggests that the second year work should consist of stories connected with Persian life, that the third year work should be based upon Greek life, and that the fourth year work should be based upon Roman life. These last suggestions have the advantage of presenting an orderly and well articulated course of instruction looking toward a very definite end.

honor him, and in the long run he will be paid for his services; it may not be in dollars and cents but he will be paid.

* * *

The New School Year. This number of THE EDUCATOR reaches our readers just about the time that the new school year is beginning. A great many teachers are going into the school-room for the first time. The first week or two of a new teacher's life is a critical one. New teachers need all of the stimulating assistance which it is possible to give them in order to make sure of their best efforts. Recognizing this fact, THE EDUCATOR this month has three or four articles of special timeliness. In the first place, Superintendent Weaver of Marion, treats in quite an exhaustive way "Teaching as a Profession." A careful reading of this article is calculated to inspire teachers with the idea that their profession is a dignified one, and one not lightly to be entered into. Another article of peculiar value is the one on "The New Study," the study referred to, of course, being the systematic temperance teaching required by law. This article is full of practical suggestions. It is our intention in future numbers to treat other phases of the subject from other standpoints. Still, again, in the primary department will be found some suggestions by Mrs. Campbell in regard to various phases of the work which will present themselves to the young teacher.

It will be noticed again that THE EDUCATOR is devoting considerable space to suggestive notes upon the township institute work of the coming year. It is the intention to make this department of the greatest value to teachers. To that end the articles will be carefully prepared, and will not aim to duplicate the work already given in the outlines, but to add to and emphasize the points there made. One of the most valuable features of these discussions will be the constant suggestion of books which are either accessible or can easily be procured by teachers.

* * *

Our New Publications. As announced in our June issue, THE INLAND PUBLISHING Co. is an incorporated company, with a capital stock of \$20,000. Its primary business is the publication of THE INLAND EDUCATOR, but it proposes to issue, from time to time, standard works of value to teachers, as well as occasional volumes of a more general nature. A number of books are in course of preparation which it is hoped to have ready within the course of the coming year. One has just come from the press, which will undoubtedly prove of the greatest importance to teachers. It is *An Outline of Method in*

History, and is written by Professor E. W. Kemp, of the Indiana State Normal School. This book is the outgrowth of Professor Kemp's experience in several years' teaching of the subject, and is, in every sense, what may be termed a practical book. Unlike too many works on method, it does not deal merely with the general and abstract phases of the subject, but, having stated in clear and concise form the underlying principles of a course in history, a large portion of the book is devoted to making clear how these principles can be worked out through the grades. The plan of the work, numerous illustrations of actual class-room lessons, and selected lists of reference books, all tend to give the book great value. The view of the work through the grades which Professor Kemp takes, is quite at variance with that which is too often attempted in our schools. In substance, his view is that the true teaching of history would consist in having the child live through the experience of the race, and to this end the work is carefully planned, so that beginning with the earliest historic times, the typical nations are taken, and the work based upon their history. This idea is not worked out in any narrow way. Great attention is given to the history of our own country, but the work is so managed that the student may see our own country as the outgrowth of all the ages which have preceded. * * * * THE INLAND PUBLISHING Co. has also just issued two volumes of poetry which will be sure to attract attention. The first of these is entitled *The Skeleton's Message, and Other Poems*, by Lydia Landon Elliott. This is a volume of really meritorious verse, and the book is printed in the very highest style of the art. * * * * The second book is entitled *The Old Indian Orchard*, by Chester L. Fidler, and is a poetical rendering of the beautiful legend connected with what is known as the "Old Indian Orchard." Attention is called to our advertising pages for further account of these two books.

OUR LIBRARY TABLE.

Houghton, Mifflin & Co. have just published in their Riverside Library Series a new edition of *Evangeline*. This edition of the poem is by far the most complete and helpful ever issued. It has quite an extensive introduction on the life and writings of Longfellow by Mr. Horace E. Scudder, and a very interesting account of Longfellow's home life by his daughter, Miss Alice M. Longfellow. An historical introduction with a discussion of the measure in which the poem is written is also worthy of attention. The notes, which are prepared also by Mr. Scudder, cover all of the

with men and women of equal or higher intellectual attainments, we fail to realize our littleness."

* * *

"Intellectually, the teacher, whether in city or in country, has not attained a high status. Overcrowded as the profession is, because it is the best stepping-stone to other callings, the average teacher has not deliberately qualified himself either in scholarship or in professional knowledge. This testimony goes to corroborate the statements on this point made annually by the National Commissioner of Education. As the public school teacher is not scholarly, it follows that his interests are not broad, and that intellectually he is not a power in the community. In the school-room itself, it often happens that the teacher has no greater knowledge of his subjects than an acquaintance with the facts required for the recitation. A superintendent in Illinois writes: The 'criticism I have to offer upon teachers as a class is their limited literary qualifications. They do not know their subjects sufficiently to make instruction definite and logical.' A teacher in a neighboring State notes chiefly the teachers' lack of 'an accurate and broad knowledge. Our elementary schools are taught by young persons who are not always graduates of grammar schools, and hardly ever of high schools. Further, our high school faculties are not, as a rule, made up of college graduates.' "

* * *

"The standard of professional equipment of the American teacher is as would be expected, even lower than his social status. Throughout the Union the idea prevails that any one who knows school-room subjects can teach, and that any one with sufficient muscle can discipline. The public is satisfied with a low standard of professional skill."

* * *

"The defects in the status of the teacher are, to repeat what was said at the beginning, lack of general culture, lack of scholarship, lack of professional training. Incidentally, partly as causes and partly as results of these defects, there must be added these facts; teaching is chosen as a makeshift by a large majority; the average length of experience is short; there is a lack of fixity of location; there is a lack of security because of improper influence from outside; there is a lack of professional progressiveness; there is a lack of a strong fraternal spirit.

"To put it briefly, teaching is not a profession. Although this statement is disturbing to the com-

placency of the earnest, well-trained teacher, yet it is none the less a fact, and is so regarded by the members of the calling at large. The status in the poorer and more sparsely settled portions of the country is, of course, decidedly lower than it is in the larger towns and cities. Yet the defects presented are the same. The difference is of degree only. There are professional teachers to be found in all parts of the country, but they are exceptions: They are mixed in with the general mass of teachers, and in any composite picture of the American public school teacher their identity is lost."

COMFORT ENCOURAGES STUDY.

The voice of Nature, therefore, forbids the infliction of annoyance, discomfort, pain, upon a child, while engaged in study. If he actually suffers from position, or heat, or cold, or fear, not only is a portion of the energy of his mind withdrawn from his lesson—all of which should be concentrated upon it—but, at that indiscriminating age, the pain blends itself with the study, makes part of the remembrance of it, and thus curiosity and the love of learning are deadened, or turned away toward vicious objects. This is the philosophy of children's hating study. We insulate them by fear; we touch them with non-conductors; and then, because they emit no spark, we gravely aver that they are non-electric bodies. If possible, pleasure should be made to flow like a sweet atmosphere around the early learner, and pain be kept beyond the association of ideas. You cannot open blossoms with a northeast storm. The buds of the hardiest plants will wait for the genial influences of the sun, though they perish while waiting.

WANTED, MEN.

No doubt a college boy will learn more Greek and Latin if it is generally understood that college honors are to be mainly awarded for proficiency in those languages; but what care we though a man can speak seven languages, or dreams in Hebrew or Sanscrit, because of their familiarity, if he has never learned the language of sympathy for human suffering, and is deaf when the voice of truth and duty utters their holy mandates? We want men who feel a sentiment, a consciousness of brotherhood for the whole human race. We want men who will instruct the ignorant, not delude them, who will succor the weak, not prey upon them. We want men who will fly to the moral breach when the waters of desolation are pouring in, and who will stand there, and if need be, die there, applause or no applause.—*Horace Mann.*

W. A. McBeth, a graduate of the State Normal in '95 and of Wabash College in '96, will teach at Longview the coming year. Mr. McBeth is in every way well prepared for the work of teaching.

W. E. Schoonover will be principal at Laurel, Indiana, the coming year. Mr. Schoonover is an experienced teacher, and for two years past has been a student in the Indiana State Normal School.

B. F. Simonson, of Brazil, whose mathematical talent is shown by the frequent appearance of his name in the list of winners in our Queries and Answers, will be a student at DePauw, next year.

Superintendent J. A. Carnegie continues in charge for another year at Columbus. A new four-room school building with all the latest features in heating, ventilation, etc., is just being completed.

J. B. Lamasters, who has taught in the township high schools in Johnson County for several years, is the new principal at Kewanna, Indiana. They have a new building there with all of the modern appliances.

Mrs. Emma Mont. McRae of Purdue University returned from her trip abroad early in August. Mrs. McRae is one of the most popular institute instructors in Indiana and has been spending the time since her return in that work.

James H. Stanley of Ridgeville, Indiana, has perfected a program chart for common schools which is regarded by those acquainted with it as of great merit. Mr. Stanley calls the attention of teachers to his chart in our advertising columns.

W. W. Black, who has been superintendent at Paris, Illinois, will do a year's work in Illinois University along scientific lines. During the past summer term Mr. Black had charge of the psychology work in the Northern Indiana Normal School at Valparaiso.

Miss Vivian E. Squier of Brookville, Indiana, died on Sunday morning, August 9th, at her home in that city. Miss Squier was considered one of the best teachers in Franklin County, and her death is a great loss to the profession as well as to a wide circle of friends.

Superintendent S. S. Parr of the St. Cloud, Minnesota, schools spent a short portion of his vacation in Indiana. Before leaving he made THE EDUCATOR office a pleasant call. Mr. Parr was formerly a member of the Indiana State Normal faculty, and later was connected with DePauw University as Dean of its normal department.

The Evansville *Tribune*, in a finely illustrated builders' edition, published August 6, has a fine account of the city school system. An extended count of Superintendent Hester accompanied by

his portrait speaks in glowing terms of his excellent work as superintendent. The schools are moving forward rapidly under his care.

THE EDUCATOR is pained to have to record the death of Miss Laura Ray, one of the critic teachers in the State Normal School, due to a fall from her bicycle on August 20th. Miss Ray had been a teacher in the Terre Haute city schools for several years before her connection with the Normal. She was highly regarded by all who knew her.

The October EDUCATOR will contain a program for Patriotic Day. This program has been prepared by the County Superintendents, through their committee, Superintendents Grant Gossett, L. S. Isham, and J. F. Warren. This day may be made one of the most pleasant and most profitable days of the school year. Every teacher can and should do something toward it.

Professor F. E. Mitchell, formerly of Indiana, but at present professor of geography in the State Normal School at St. Cloud, Minnesota, is spending a portion of his summer in Indiana doing institute work and visiting. Professor Mitchell is the author of a series of geographical monographs which are of great value. Attention is called to one of these in our advertising columns.

LaGrange and Noble Counties have made a departure from the usual custom of holding institutes. Superintendents Machan and Adair held a joint institute at Rome City, August 24-28. The instructors were A. W. Edson of Worcester, Mass., A. J. Kinnaman of Danville, Ind., and Wm. Miles of Ft. Wayne, Ind. There are many things to be said in favor of such an arrangement, and so far as we can see, very little against it.

In the *Iowa Normal Monthly* for September, we find a lengthy account of Superintendent E. A. Brown of Woodbury County, Iowa, who originally was an Indiana man. He was born in Morgan County, Indiana, in 1857, graduated at DePauw University in 1884, was professor of mathematics in Morning Side College, Iowa, for about four years following 1890, and has been County Superintendent since. He has about four hundred teachers under his charge.

The work in connection with the new Centennial Exposition at Nashville, Tennessee, is moving along nicely, and the exposition itself bids fair to be one of the most important ever held on a similar occasion. Its purpose is to celebrate the one hundredth anniversary of the admission of Tennessee into the Union. It will open May 1st, 1897, and continue six months. Such an exposition will be of great advantage in bringing the North and South together and making them more acquainted with each other.

Sandford Bell, for the past year superintendent of the schools at Aurora, Ind., has recently been elected to the position of teacher of psychology in the Northern Indiana Normal School at Valparaiso. Mr. Bell has had considerable experience in teaching, is a graduate of the State Normal School and has done quite a good deal of work in Indiana University. The Normal School at Valparaiso is to be congratulated upon securing Mr. Bell's services. On the 27th of August, Professor Bell was married to Miss Gertrude Sumption at Walton, Indiana.

The Jay and Adams County teachers indulged in an excursion to Rome City on Saturday, August 22. Both counties held their institutes on the week of the 17th, and this excursion was the closing up exercise. A very neat programme of the trip was issued, containing full-page portraits of County Superintendent J. F. Snow of Adams, and County Superintendent J. E. Bishop of Jay. A poem by A. J. Burdick occupies one page. General John B. Gordon gave his famous lecture on the "Last Days of the Confederacy," at the park. Such an outing cannot but be of very great value and interest to those taking part in it, and especially does it seem of interest for two or more counties to come together in this way.

MISCELLANY.

The Indiana Scientific Temperance Instruction Law. An act requiring instruction in the common schools and in certain educational institutions as to the effects of alcoholic drinks and narcotics on the human system.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana.* That the nature of alcoholic drinks and narcotics, and their effects on the human system, in connection with the subjects of physiology and hygiene, shall be included in the branches to be regularly taught in the common schools of the State, and in all educational institutions supported wholly or in part by money received from the State; and it shall be the duty of the Board of Education and Boards of such educational institutions, the Township Trustees, the Board of School Trustees of the several cities and towns in this State to make provision for such instruction in the schools and institutions under their jurisdiction, and to adopt such methods as shall adapt the same to the capacity of the pupils in the various grades therein; but it shall be deemed a sufficient compliance with the requirements of this section if provision be made for such instruction orally only, and without the use of text-books by the pupils.

SECTION 2. No certificate shall be granted to any person on or after the first day of July, 1895, to teach in the common schools or in any educational institution supported as aforesaid, who does not pass a satisfactory examination as to the nature of alcoholic drinks and narcotics and their effects upon the human system.

SECTION 3. Any superintendent or principal of, or teacher in, any common school or educational institution supported as aforesaid, who willfully refuses or neglects to give the instruction required by this Act shall be dismissed from his or her employment.

SECTION 4. This act shall take effect and be in force from and after the 30th day of June, 1895.

* * *

The Library Section of the N. E. A.

A very important feature of the recent meeting of the National Educational Association was the organization of a library section. Teachers and librarians have been realizing more and more of late years the common ground they occupy as public educators. Careful consideration of the matter has shown the need of systematic cooperation between schools and libraries. The matter was finally taken up by J. C. Dana, president of the American Library Association, and a correspondence opened with leading educators. Active interest in the matter was awakened and a very strong petition was presented to the executive council of the N. E. A. asking for the admission of such a section into the Association. The matter was strongly presented by leading educational and library periodicals. Thus it came about that when the council met, as one of its number remarked, there was "not much else to do but to carry into effect the wishes of so large a constituency." At a meeting of the council on July 6th, the matter was presented by Melvil Dewey, state librarian of New York and secretary of the board of regents of the University of New York. The vote to admit the section was unanimous, and to such an extent was it favored that an amendment was adopted to drop the word "school," which was before "library" in the motion, and make the new department the library section; admitting librarians to membership as well as teachers. A meeting for organization was held in the Buffalo public library, Thursday, July 9th, with a large attendance. It was called to order by William H. Smiley, Denver, Col., and Melvil Dewey was appointed chairman, and William H. Smiley, secretary pro tem. Mr. Dewey stated briefly the character and purpose of the departmental organization of the N. E. A.; then a motion was carried to elect a president and secretary, the same to serve as an executive committee to arrange

for work the coming year. A full and free discussion, from the point of view of personal experience, followed, of the mutual relationship of school and library, of librarian and teacher. Dr. Russel of Colorado; Mr. Bishop of Illinois; Mr. Skinner of New York; Mr. Hutchins of Wisconsin; Mrs. Hall of Buffalo; Mr. Smiley of Colorado; Miss Schrieber of Wisconsin; Mr. Parsons of New York; Mr. Barbour of Illinois, and others took part. The permanent officers were appointed a committee to confer with the officers of the A. L. A. as to the best means for cooperation between schools and libraries. The time was fully occupied; much enthusiasm was displayed over the formation of the section, and altogether the matter was full of interest. A committee was appointed to select the permanent officers of the section, and reported for president, Mr. Melvil Dewey, secretary of the University of New York, well known to both teachers and librarians; vice-president, J. H. Van Sickle, superintendent of schools in district 17, Denver, Col., who has paid much attention in recent years to the use of books in school-rooms, and has lately established a small circulating library in every school-room district; secretary, Mary Eileen Ahren, Library Bureau, Chicago. The library section of the N. E. A. is a real fact, has a good start, and bids fair to accomplish the purpose which brought it into existence.

* * *

General Method. In addition to what has been said already, a word further may be helpful. The teacher must realize that she is teaching children rather than subject-matter: children rather than men. This must not be forgotten. Logical sequence must be secured as far as possible, but in the daily work psychological sequence must take precedence. The organizing idea in all subjects is the life relationship involved. Studies should be as closely articulated as possible, yet they must be kept distinct in order to preserve their individual strength. Each subject must be made to help every other, and at the same time its individuality must be preserved. The teacher must recognize that while a fact may be a fact of geography and also of arithmetic or history, yet as a geographical fact it is clearly different from the historical fact or arithmetical fact. The school studies should be closely concentrated about the life of the child as the center of concentration. The continuity of the subject is to be preserved, and at the same time each detail of the subject is to be made to touch the life of the child when presented to it. This principle must be obeyed. The teacher must be careful to secure thorough apperception of ideas. The mind knows only in terms of what is previously known. The

teaching process is a process of building up the new idea out of the elements of knowledge already possessed by the pupil. There is no other way. The teacher must also look to the apperception of ideas in the broader sense of that term. The pupil must follow the connections of ideas on out toward such grasp that the pupil becomes master of the fullest significance of the thing which he studies. It is this broad apperception which gives scholarship.—SUPERINTENDENT MILLIS, of Attica, in his Annual Report.

* * *

Dr. Harris's Response at the N. E. A.

"In the name of the National Bureau of Education I thank you for your kind welcome to the city of Buffalo. We have come here with interest and pleasure to see the great town that stands at the eastern gate of the vast inland sea of North America, just as Byzantium or Constantinople stands at the eastern gate of the Mediterranean. We have come to see the sources of your power and to confer with you on questions of method and policy in education. The leaders of education have heard of the new departure here in school management and in the higher training of teachers, and they have been looking expectantly to you for an interesting and instructive experience. In the few days of our visit with you we shall hope to discuss our problems in the light of principles and practical experiments. We are all earnest in our search for an education that will best succeed in helping children to help themselves. We do not intend to raise up a governing class separate and apart from the class to be governed. The people shall be the law-makers and the rulers, and at the same time they shall be ruled by the laws, obedient to their self-chosen government and respecting the laws that they have made. The school best fits for this life of free citizenship by its strict discipline, its orderly conduct, its instruction in the symbols of thought, its initiation into letters and technical expressions which have been used to preserve experience and wisdom of civilized people.

"Two great objects are secured in our elementary, secondary, and higher education. On the one hand, the child learns how to conquer and subdue the forces of nature—how to make these subservient to rational ends. Natural science and mathematics place in his hands the mastership over those tools of thought which lay a spell on the organic and inorganic production of the world, and turn them into wealth and means for spiritual progress. On the other hand, education in the school gives the pupil an insight into the nature of his fellow-men. He learns their motives and springs of action. He becomes familiar with their feelings and convic-

tions and the grounds for them. This enables him to step forth as a citizen, able to contribute to the formation of a healthful public opinion and to adopt and execute its behests. Our school-educated population shall be less and less given to sudden gusts of passionate impulse and more and more given to deliberation. Let us rejoice that we are met with you here in these summer days, in your delightfully cool and health-abounding city, to confer on these important themes of our profession."

* * *

Horace Mann. "We can build no monument to such a man. He built his life into the lives of the people and his memory will abide forever. He possessed the true spirit of teaching in his patient endurance, self-sacrifice, and self-consecration. Horace Mann was distinctively an American in all his instincts. The tendency of the present day to overload the intellect at the expense of the moral nature is criminal in the extreme, and must result disastrously in the end. The course of study must be enriched on the side of the heart rather than the head. In all Horace Mann's writings he makes very prominent the thought that as we strengthen the intellect we must also quicken the conscience; that as we add to the impulsive we must also add to the regulative powers. An intellectual class with no love of man in their hearts, and an ignorant and depraved class with no fear of God before their eyes, form a dangerous state in society."—State Superintendent Sabin.

* * *

Function of Nature Study. "Love of nature must be inculcated before the beginning of nature study. Love of nature must be made the first postulate and chief object. Science, art, literature, and religion are the four branches of study between the kindergarten and the university. The love of nature is the basis of the study of science. I think we can sum up this topic by saying that the beginning of all education must be the love of nature. Nature is not materialism. Nature by all those who study her to-day is regarded as spiritual. She is the veil to all the hidden study-mysteries. Nature study is the dominant note in education. We are living in the great renaissance of nature study. People are getting back to the primal sources of life."—President G. Stanley Hall.

In every work regard the writer's end,
Since none can compass more than they intend,
And if the means be just, the conduct true,
Applause in spite of trivial faults is due.

—POPE.

INDIANA STATE BOARD QUESTIONS FOR AUGUST, WITH DISCUSSIONS.

GRAMMAR.

(Any six.)

"The cause of American Independence was now to be presented to the world in such a manner as to engage its sympathy, to command its respect, to attract its admiration."

1. Give the entire subject of the above sentence; the entire predicate.
2. Select the adjective phrases; state case of each noun, and give the principal parts of the verbs used in the above sentence.
3. Give synopsis of the verbs "ring" and "caught" in the third person, singular, subjunctive mode.
4. Define grammar as a science; as an art.
5. "The marks of a good definition are three.
 1. Name the thing defined.
 2. Put it into the smallest known class.
 3. Give the marks or characteristics of it which set it off from all other members of that class."

Observing the "marks of a good definition," define noun, adjective, pronoun, and verb.
6. Define a clause. Define a principal clause. Define a subordinate clause.
7. Compare and contrast synopsis and conjugation.

1. The entire subject of the sentence is "The cause of American Independence;" and the rest of the sentence forms the entire predicate.

2. The adjective phrase in the above sentence is "of American Independence." "Cause" is nominative, subject of the sentence; "Independence" is objective after the preposition "of;" "world" is objective after the preposition "to;" "manner" is objective after the preposition "in;" "sympathy" is objective, object of the verb "engage;" "respect" is objective after the verb "command;" "admiration" is objective after the verb "attract."

Principal parts of the verbs: present, presented, presented; "engage," "command" and "attract" form their principal parts regularly in like manner by adding "ed" to the present.

3. Present—If he ring; if he catch. Past—If he rang; if he caught. Past Perfect—If he had rung; if he had caught.

4. As a science, grammar deals with the laws and principles which underlie sentence construction; as an art, it aims to enable the student to acquire the successful use of the sentence as an instrument in expressing his thought.

5. The noun is a substantive word that expresses an object of thought by naming it. An adjective is an attributive word which expresses an attribute of an object of thought without asserting it. A pronoun is a substantive word that expresses an object of thought without naming it. A verb is a word which asserts, or, a verb is a word which expresses relation between thought subject and thought predicate.

6. A clause is a group of words having a subject, predicate, and copula, and used as a part of a more comprehensive sentence. A principal clause is a clause which is not used in the sentence with

the value of a single word. A subordinate clause is a clause which is used in the sentence with the value of a single word.

7. The conjugation of a verb is the giving of all the forms for the different modes, tenses, voices, persons and numbers; the synopsis of a verb is the giving of these forms in a single person and number.

(For the above definitions and statements we are indebted, for the most part, to Wisely's New English Grammar.)

READING.

1. Read a selection to the County Superintendent. 50
2. Show how the subject of reading may serve to develop and strengthen the mind of the pupil. 10
3. Illustrate, by using the word "hat," how the pupil may be put in condition to help himself in learning new words. 10
4. When may the children begin to get thought from reading? Give example. 10
5. Distinguish between primary and advanced reading. When in the course of study would literary interpretation properly come? 10
6. a. State fully the *extent* of the assignment of reading lessons in the second and third years. b. What is the real purpose of the oral reading of a selection by the members of a class?

2. Reading may serve to develop and strengthen the mind of the pupil by means of the ideas presented, or by means of the effort of mind required in the interpretation of the given selection.

3. The answer to this question may be found somewhat in detail in the introduction to the Indiana First Reader. If the child becomes acquainted with the word "hat," when he takes up a word that has some part of it similar to this, as "mat," he will at once know the last part of the new word and has only one additional sound to get.

4. The question is a very indefinite one, or rather, it is impossible to give a very definite answer to it. As soon as he is acquainted with a number of symbols, they may be so arranged that the process of reading results in thought getting.

5. In primary reading the learner is proceeding from meaning to form, from the idea or thought which is already in his mind, to the word or sentence which expresses it. In advanced reading the movement is the reverse of this. Later the interpretation, in the sense in which that term is usually understood, would be a prominent part of the seventh and eighth year's work. In its simpler forms, of course, it should begin early in the grades.

6. (a) Assignment in the second and third years should extend only to very simple and definite questions which will direct the mind of the child in grasping the thought of the lesson. The nature of the lesson and of the class must determine just what this assignment will be. No definite laws can be laid down.

(b) The most important purpose of oral reading is to determine whether or not the meaning of the selection is understood. Of course there are other purposes by no means unimportant, such as the acquirement of mastery over the organs of speech, etc.

GEOGRAPHY.

(Select No. 7 and any other four.)

1. How have water and ice assisted in bringing about the present condition of the surface of the earth?
2. How are deltas formed? Name three important deltas in the world?
3. To what causes is the long winter polar night due?
4. What geographical causes produce the difference between the South American Pampas and the Asiatic Steppes?
5. Why are the winds that strike the south side of the Pyrenees warm, moist winds, while those on the north are dry and cold?
6. What countries constitute the three great peninsulas of Southern Europe? Historically, which is the most interesting? Why?
7. "In the sixth and seventh years the aim of geography * * * should be the study of man in the various parts of the globe, living in different zones, surrounded and affected in his institutional life by different climatic conditions, mountains, plateaus, valleys, oceans and inland waters."—State Course of Study. Discuss the above.

1. Water and ice have been the chief agents of land sculpture. By disintegration, transportation and deposition they have worked over and redistributed the materials of the earth's crust, and have been the direct agents in the formation of soils and sedimentary rocks. For various reasons this work has been unevenly distributed, and *every detail of relief*, from the highest mountain peak to the deepest canyon, is due to unequal erosion by water and ice. To them we owe the endless variety, and consequently the beauty, of the surface of the globe.

2. By the deposition of sediment by streams when their velocity is checked on entering a body of still water. The Mississippi, the Nile, the Ganges-Brahmapootra.

3. To the inclination of the earth's axis and the revolution of the earth around the sun.

4. In general, the difference of elevation and the difference in the size of the land masses. These are both excessive in Asia, producing an extreme phase of the treeless condition.

5. This question asks for an explanation of conditions which do not exist. The south side of the Pyrenees is relatively warm and dry because it slopes toward the sun and some of its winds blow from a warm and arid region. The north side is relatively cool and moist because it slopes from the sun and is more directly accessible by the winds from the Atlantic. The north side has more forest and a lower snow line. The contrast is much greater east and west than north and south. The Eastern Pyrenees are wild, naked, and without glaciers. The Western Pyrenees, on

account of their proximity to the Atlantic, have glaciers along their crests and are heavily forested toward the base.

6. Greece, Italy, Spain and Portugal. Greece is interesting as having been the seat of an early civilization, and later of the highest artistic, literary and philosophic culture known to history. Italy is interesting as having been the seat of the Roman Empire, which dominated the known world for a thousand years.

7. The main chain of the geographic argument leads from the earth's surface to man. If the structure and relief of the solid earth, the circulations in the oceans of water and air, the nature and causes of climate, the distribution of plant and animal life as determined by relief and climate,—if the distribution of all these phenomena in *their mutual dependence* has been studied, it is time in the sixth, seventh, or any other year, to take up the last link in the chain, and to study the relation of man to his physical environment. If the preliminary steps have not been taken, and the relation of the non-human factors of that environment have not been clearly conceived, an attempt to study the human relation in any year will necessarily be a failure.

ALCOHOL AND NARCOTICS.

Write a composition of 300 words on the subject of Alcohol and Narcotics, discussing:

1. The physical effects.
2. The moral effects.

Among the better known narcotics are alcohol, chloroform, opium, hemp, betel, tobacco, coca, thornapple, and henbane. The principal narcotic is alcohol. Entering the mouth it increases abnormally the flow of saliva and thereby weakens it. Reaching the stomach it has a like effect on the gastric juice. While in the stomach it coagulates the albumen in foods, retarding digestion. But the alcohol having a great affinity for water, soon passes into the blood vessels and lymph vessels. In these vessels the alcohol absorbs water and creates the unnatural thirst common among drinkers. It also absorbs oxygen from the blood greatly to the detriment of the oxidation processes. It interferes with the working of the liver and kidneys causing poisons which should be eliminated to remain in the system. In the heart, the alcohol causes degeneration of the muscular fiber, enfeebling the power of the heart to propel the blood. In the lungs it causes alcoholic phthisis. It temporarily paralyzes the brain. The membranes enveloping the nervous substance undergo thickening. The blood vessels are dilated, thereby taking away their elasticity which is so important to proper heart beating. Alcohol causes fatty deposits about the liver and heart, greatly interfering with these organs. It lowers the temperature of the body.

Alcoholic drinking lowers the whole plane of physical health. It preserves waste tissue as shown in the unnatural bloating of beer drinkers. It predisposes the drinker to attacks of fevers and other maladies. As is stated by Gustafson: "These derangements are attended with baleful visions, impure fantasies, weariness of self and disgust with life; the whole hydra evil culminating in idiocy, insanity, and temptations to and commission of all kinds of crimes and sensualities, theft, incendiarism, suicide, and murder." As to its moral effects, alcohol destroys the will power, moral perception, conscience, affection, self respect and regard for others.

ARITHMETIC.

(Any eight.)

1. Discuss the idea and respective relations of cent, nickel, dime and dollar, and \$1.00, \$2.00, \$5.00 and \$10.00 bills, as to a pupil ready for such work.
2. At what time in the course of study should the pupils be given some practice in making and receipting bills? Indicate such a bill as you would use, and also the grade to which you think it applicable.
3. Through what observation and question would you lead a pupil to the discovery of method for finding the area of a rectangle, a right angled triangle? Indicate.
4. An irregular piece of land, containing 540 A., 36 sq. rd., is exchanged for a square piece containing the same area. This was divided into 42 equal squares, what was the length of the side of each?
5. What is the difference between the simple interest and the bank discount of \$450.00 at 5% for 6 yrs. 10 mon?
- 6.

PRIN.	RATE	INT.	TIME.	AMOUNT.
2.	5	?	2 yrs. 3 mo. 10 da.	\$1,893 61½
\$9,750 00	12	\$780 00	?	?
\$1,700 00	?	\$10 58	28 days.	?

7. Find the cost of three pieces of timber, each 26 feet long and 6 in. by 9 in., at \$1.75 per hundred board feet.
8. What will it cost to gild a 14-inch cube at 4½ cents a square inch?
9. A man owes a debt of \$5,400.00 due in 8 months. By paying it now he will be allowed 5% off, and he can borrow this money at 5% per annum. How much may be gained by borrowing this money to pay the debt?

1. A cent has the least value of any piece of money which we use. A nickel is worth as much (i.e. will buy as much) as five cents. A dime is worth as much as ten cents or two nickels. A dollar will buy as much as one hundred cents, twenty nickels, or ten dimes. A \$1.00 bill is an agreement by which the government agrees to pay one dollar in coin value, to the holder, according to the terms of the bill. Since the government fulfills its agreements a \$1.00 bill is worth one dollar, ten dimes, twenty nickels, or one hundred cents. \$2.00, \$5.00 and \$10.00 bills are the same excepting difference in value. Samples should be used and the distinguishing marks brought out.

2. Not before the fourth nor later than the sixth. This would be suitable for any of the three grades. Have the pupils put the bill in about this form:

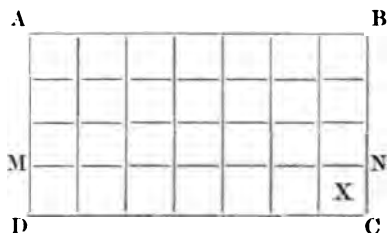
Mr. John Jones, Kansas City, Mo.,

Bought of W. D. Morris & Co.

9	Doz hoes.....(a)	\$3.50	**	**		
4	Kegs nails (8") (a)	3.14	**	**		
7	Doz bxs tacks....(a)	40	*	**		
9	Hand saws .....(a)	95	*	**		
					\$††	††

The ** indicates the amount of each item and the † indicates the total amount. These should be filled out by the pupil.

3.



Have the pupil understand that all areas are measured in terms of square units.

Let $A B C D$ be a rectangle whose length is seven units and whose width is four of the same kind of units. Let the square, X , have its sides equal to these units; then the area of $X=1$ sq. unit; but $D M N C$ contains seven squares the size of X , \therefore its area = seven sq. units. But $A B C D$ contains four rectangles the size of $D M N C$, \therefore the area of $A B C D$ is 28 sq. units. Then since the length of the rectangle $A B C D$ is 7 units and its width is 4 units its area is the same as the product of its two dimensions. As to the right triangle, show the pupils that every right triangle is the half of a rectangle having for its two dimensions the legs of the right triangle, \therefore the area of a right triangle equals one-half the product of the two legs.

4. The problem is impossible, for a square field cannot be divided into 42 equal square fields.

5. There is no difference.

6.

PRIN.	RATE	INT.	TIME	AMOUNT
\$1700.00	5	(\$193.61)	5 yr. 3 mo 10 da.	\$1893.61
\$9750.00	12	\$790.00	(8 mo.)	(\$10530.00)
\$1700.00	(8%)	\$10.58	28 days	(\$1710.58)

7. A piece of timber 26 ft. by 6 in. by 9 in. contains as much lumber as a plank 26 ft. by 1 in. by

54 in. (or $4\frac{1}{2}$ ft.). Then one piece would contain 127 ft. ($26 \times 4\frac{1}{2}$) in board measure, and the three pieces would contain 381 ft. (3×127) in board measure. $3.81 \times \$1.75 = \$6.66 +$

8. If it is a 14-inch cube, the area of each of the six faces is 196 sq. in. \therefore the six faces would have an area of 1176 sq. in. This at $4\frac{1}{2}$ cents per sq. in. would cost \$52.92.

9. If the man were allowed 5% off for cash, \$6080.00 would pay the debt. This borrowed at 5% for 8 mo. would amount to \$6282.66 $\frac{2}{3}$. The gain would be \$400.00—\$6282.66 $\frac{2}{3}$ or \$117.33 $\frac{1}{3}$.

SCIENCE OF EDUCATION.

(Select No. 8 and any other four.)

1. Define apperception.
2. How is apperception different from perception?
3. Show that, logically, all perception involves apperception.
4. An ignorant, illiterate man and a great botanist both look at a plant, perceive it with equal clearness. Which would have the larger and richer apperception of the object, and why?
5. What do you consider the true aim of object lessons in the school?
6. Do you see any important distinction between apperception and association? and if so, what?
7. To acquire new knowledge is to know something new in terms of that which we already know. Does this involve the principle of apperception? Explain.
8. In what sense will one's previous perceptions and apperceptions determine what he will see and give his attention to when surrounded by an environment relatively new?

1. Apperception is that activity of mind in which the meaning or significance of sensuous elements is brought out. It is the interpretation of the sensuous material presented to the mind in the light of one's past experience.

2. Apperception is the meaning side of perception just as it is of every mental act. The characteristic of perception is that it deals with actually present particular things; in this process there are three steps: (1) The presentation of the sensory elements standing for these particular things. (2) The interpretation of these sensory elements in the light of past experience. (3) The assimilation of this activity by the organized self. Apperception is the second of these.

3. There is first the presentation, or existence side, or sensation, in every perceptive activity. Then comes the reading of meaning into this presentation in accordance with what one is. A thing is and means.

4. The illiterate man and the great botanist, under normal neural conditions, have the same presentation or sensation in looking at the plant. The botanist must have the larger and richer apperception of the object because he has the larger fund of plant experience to bring to its interpretation.

5. The true aim of object lessons is to aid in thought; they should strengthen the child in this direction.

6. Association may be considered as the simplest

stage of apperception; it is that stage in which the activity of the mind in interpreting presentations seems almost passive and mechanical and externally determined.

7. Yes, this is apperception. We can only know in terms of what we are. It's the old question of proceeding from the known to the nearest related unknown.

8. In the sense that one is most interested in those things that have most of self in them. They mean most to him, and are in keeping with his nature.

THE TEMPEST.

1. Near the close of Act III Ariel says:
"I and my fellows are ministers of fate, etc."
With the text before you quote any lines that seem to you to teach the doctrine of repentance as a means of freeing one's self from the effects of his evil deeds.
2. Read carefully the last utterance of Alonso in Act III, beginning:
"O, it is monstrous, monstrous!
Methought the billows spoke and told me of it,"
and tell what state of mind is here expressed. Find other passages bearing upon your answer.
3. What view of the family as an institution of society does Prospero set forth, especially in the first part of Act IV?
4. What is the significance of the great pageant which Prospero provides after the union of Ferdinand and Miranda?

1. Ariel, in a speech beginning as indicated, places clearly before the criminals their evil deeds. Having done this, and having brought them, it would seem, to a realization of the nature of their sins, he closes by telling them what it is that will save them, namely,

"Nothing but heart sorrow and a clear life ensuing."

2. The state of mind expressed in the passage quoted from Alonso is that of remorse. He is so filled with this feeling that it seems to him that nature is taking the part of an avenger and keeping clearly before his mind his evil nature. The passages immediately following bear upon the same idea. Gonzalo, a moment later, says:

"All three of them are desperate: their great guilt,
Like poison given to work a long time after,
Now 'gins to bite the spirit."

Just before the passage quoted Prospero, speaking of the effect of Ariel's magic upon them, says:

"My high charms work,
And these mine enemies are all knit up
In their distractions."

3. Prospero dwells especially at this point upon the sacredness of the family as an institution, and upon the necessity of the ethical element which must enter into all true emotion.

4. Whether or not the great pageant which Prospero introduces after the union of Ferdinand and Miranda has any symbolical meaning is difficult to determine. Its dramatic purpose at this point is easy to see. Amongst other things that might be mentioned, it indicates Prospero's great power as a magician, serves to bridge over the

time while the drunken conspirators are getting their plot perfected, serves as a kind of resting spell for the reader, thus adding emphasis to what goes before and what comes after, by contrast, and finally, it contributes to the demand on the part of an Elizabethan audience for a spectacle.

HISTORY.

(Select No. 5 and any other four.)

1. What is history? What is the end in the teaching of history?
2. Give a suitable line of History work for second, third and fourth years.
3. Why is the Colonial Period so important? Politically, which is the most important idea of the Colonial Period?
4. Give a date which approximates the beginning of "the period of union for national life and growth." Give reason for date selected.
5. "Every great leader, every invention, every great movement, every new industry should be classified upon the basis of the institutional idea in it, and must be interpreted in the light of its influence on each of the great lines of growth."—State Course of Study. Discuss the above quotation.
6. Discuss the growth of the idea which resulted in the adoption of the Constitution.

1. History may be defined as the life development of a people, or as the change, the movement, the progress which occurs in the life of a people. The end in the teaching of History is to have the pupil live through this gradual growth or development and fully understand it.

2. The State Manual suggests that the history work for the second and third years should be: The nature, growth and advantage of institutional life as seen in the study of Robinson Crusoe, and home observations. It further suggests that the history work for the fourth year follow some such trend as this:

First Part. The essentials of government and the necessity for it as seen in family, school, town, township, county and business.

Second Part. The study of Lief the Fortunate, Columbus, King Phillip, Roger Williams and William Penn in the light of the institutions they represent.

Third Part. The study of Franklin, Washington, Jackson, Lincoln, Grant and Garfield in the light of the institutions they represent.

Professor Kemp, in his *Outline of Method in History*, presents the idea that the child, through the work in the grades, should in a general way live through the experiences of the race as exhibited in its typical experiences, and to this end suggests that the second year work should consist of stories connected with Persian life, that the third year work should be based upon Greek life, and that the fourth year work should be based upon Roman life. These last suggestions have the advantage of presenting an orderly and well articulated course of instruction looking toward a very definite end.

THE CASE OF THE PUBLIC SCHOOLS.

WITNESSES:

८४१८५

- [illegible]

—EUREKA, ILL. 3

+ + +

"Although to rally the stamp of the teacher high socially it is found to be lower than the stamp of the average lawyer, the physician, or the theologian. Teachers do not give proper time and thought to the social side of life. To begin with, they are thought to be like the old-fashioned suburbanians in matters of personal appearance. Fortunately, there is no special style of dress by which they are known, but there is a carelessness that characterizes the rank and file of them. They do not feel the desirability of meeting people in a social way. The fault, however, is not in the occupation, but in the persons who take it up. Whenever teachers meet other men and women on equal terms, they get all the externals their character and personality deserve. Undoubtedly, as many complain, they are overworked, and have no strength left for society when the indulgence of the school is the thing of the social times, and tends to quench any social desire. Moreover many are not paid enough to dress properly. In school we teachers are associated with less mature minds, and it is easy to become self-satisfied. Unless we come in contact

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* * *

No doubt a college boy will learn more Greek and Latin if it is generally understood that college honors are to be mainly awarded for proficiency in those languages; but what care we though a man can speak seven languages, or dreams in Hebrew or Sanscrit, because of their familiarity, if he has never learned the language of sympathy for human suffering, and is deaf when the voice of truth and duty utters their holy mandates? We want men who feel a sentiment, a consciousness of brotherhood for the whole human race. We want men who will instruct the ignorant, not delude them, who will succor the weak, not prey upon them. We want men who will fly to the moral breach when the waters of desolation are pouring in, and who will stand there, and if need be, die there, applause or no applause.—*Horace Mann.*

THE ENGLISH SPARROW.

Although, for some years, these house sparrows have lived as near me as they are to-day, I must confess that I have taken little interest in them.

An unenviable reputation preceded their arrival and the right-hand of fellowship was never extended to them but what is that to such self-centered bipeds. They are accustomed to the cold shoulder.

This spring my dislike for two of these feathered chirpers came near leading to their annihilation. It was in this wise: For several years some little wrens have built in our porch. They had pre-empted the place and we all voted them a clear title. "As did I say?" No, these greedy sparrows acknowledge the claim of no bird before their own. This year, very early, two of them took possession of the wren's home. They worked vigorously carrying coarse grass and weeds, and later feathers for a lining, to their nest. There was no beauty about this nest, and even the lining was so carelessly fitted in, that frequently feathers were wafted out into the yard. In this nest the mother-bird laid her light blue eggs, spotted with brown. She was sitting on her nest when the little wrens arrived April 23. We feared they would leave when they found their home occupied, but they submitted with a beautiful spirit to the inevitable, and after careful prospecting, chose a maple, not far from the house, in which to build their nest.

After the sparrow had been sitting on her nest for nearly two weeks, we heard faint cries coming from the nest sounding much like the squeak of little mice. As the days went by these cries became louder, and to-day their voices seem as strong and sparrow-like as that of the grown birds, although they are only about eight days old.

This afternoon my sympathies were in need for the father of these birds. The old fellow, with his black garter, alighted greatly agitated, upon a branch of an arbutus near which I sat. He cried as I interpreted, "help, help, help" as he hopped about on the branch, ruffling up his feathers, which his wings vibrated rapidly, as if marking the beatings of his heart. What could be the matter? Was he signaling for some one? Was he suffering from some accident? All speculation revealed a smooth caterpillar about an inch and a half long, and very smooth, with a small black, long and thin, hair, protruding from his back. It was just the caterpillar that he was looking for. No wonder, for the length of a caterpillar was useful. He flew to another tree, and away he went, leaving "help, help, help" in the same distressed tones. Why

did not his mate come to his rescue? About every three minutes she passed near, bringing food to her little ones. What dull ears! Or what cruel indifference!

After several minutes of this seeming agony, the male flew to the nest and left the worm with one of his big-mouthed babies. Then he flew gayly to the swaying branch of a tree, where he looked happy enough to sing.

To this peaceful scene came his overworked spouse with cruel berating for her gay lord. If I caught the spirit of his answer it was this: "Don't you try to dictate to me," and the poor mother went back crestfallen to her work for their hungry little ones.

Some twenty or thirty minutes later, the male returned to the arbutus with the same agonizing cry. This time he held in his bill a small white butterfly. The previous scene was repeated exactly, until the butterfly was deposited with the babies, but my interpretation of his cry this time was somewhat different. It was a condensed "see me! see me! see me!"

What a contrast between the noisy obtrusiveness of the male and the quiet, modest, yet business-like manner of the female.

The female usually brought her provisions from the trees or plants—furnished the vegetables—while the male brought the meat, to-day, I do not suppose, however, that they thus divide up their work. I shall make further observations, for even English sparrows are interesting.

Every time, however, that I see one of these birds with food that the bluebirds used to enjoy, I do not feel much like giving the English sparrows credit for the good they are doing. They drove our bluebirds away.

LINA BAOWS McMAZAY, in *P. M. School Journal*.

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THE MESSAGE OF THE VISION OF SIR LAUNFAL.*

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[In Two Parts—Part I.]

As THE light of modern investigation is brought to bear upon the work of the Celtic people, more and more does it become manifest that the richest treasures of modern romance are distinctly traceable to Celtic song and story. They were a people whose artistic nature gave of its stores of wealth to the enriching of the Christian ages. In the myths of Greek, Roman and Teuton is the expression of the fear of man, but little of his aspiration; much of the gross, material tendency, little of spiritual longing. When the Celt brought his warm, impulsive nature to grapple with the problem of life, he approached a solution from the standpoint of a conscious, individual existence. The chivalry that animated his very being demanded that his conquests be distinguished by individual heroism. To conquer self was to him the highest virtue attainable. His fine sense of human sympathy was coupled with such tender recognition of the beauty of nature as to make this people stand as a synonym for some of the diviner characteristics of man.

In English there have been three classes of Romantic literature—the Romance of Real Life, the Allegorical Romance and the Romance of Chivalry. The Romance of Chivalry has four great cycles—the Carlovingian, the Alexandrine, the Dano-Saxon and the Arthurian. Among these the Ar-

thurian cycle has embodied most comprehensively the life and spirit of the Celtic people. The Arthurian epic, the reflection of the earlier times, at first is made the theme of the poet, and King Arthur becomes the subject of song, and is transferred from earthly scenes of real life to be the idealized and mythological king. Later he becomes the type of the resplendent sovereign who reigns with unlimited power over an earthly kingdom. In the twelfth century, however, the legend in the hearts of the Anglo-Norman people is touched with spiritual significance and King Arthur becomes the leader of the "Knights of the Round Table," while the search for the Holy Grail becomes the means of salvation, sought by every earnest knight. Sir Galahad, unsullied by contact with evil, stands illumined by the light of the wondrous cup clothed in white samite. The legends of Arthur and his knights were told and retold, but not until the creative soul of Walter Map, who was both poet and priest, did they embody that mystic meaning which gleams through the enchanting recital of heroic struggle ever tending to the realization of the power that, through a spotless life, shall lead the soul to eternal light. The church, seizing upon the legend of the sacred cup, sees in this a sufficient cause for the most valorous deeds ascribed to king or knight. Merlin wielded the magic of the pagan world, but when the Holy Grail was made the center of the legends, then was

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transformed the magical story into the Christian story of the cup having been entrusted to the holy man, Joseph of Arimathea, to whom the knights, who sought to view the cup, traced their lineage. Personal purity, to be chaste in thought, word and deed, was the condition on which the cup could be retained. When one of the keepers had broken this condition, the cup disappeared and, ever after, it was a favorite employment of the knights to go in search of it.

Lowell says of his treatment of the legend: "I have enlarged the circle of competition in search of the miraculous cup in such a manner as to include not only other persons than the heroes of the 'Round Table,' but also a period of time subsequent to the date of King Arthur's reign." Sir Launfal is not a knight of the famous "Round Table," neither does the halo of a far distant time surround the head of the young knight, but nearer to our own time, he becomes the bearer of a message fraught with the true significance of the Christian life.

In the introduction of the Prelude to Part First, the poet represents the "musing organist" as allowing his fingers to wander over the keys of his instrument feeling for the expression of his theme. His soul is full of the truth he wishes to utter and the touch of his instrument transforms the glinting beauty into definite form. Then begins the development of the theme.

Heaven lies around us in our infancy, but every day sees a revelation as if from the mountain where God appears and talks with man. Each day sees some struggle of the soul to free itself from the thrall of sin; each day sees some temptation withstood, some victory gained, some divine message vouchsafed. Glimpses of better things may unconsciously lift the soul to a finer appreciation of truth.

All nature contributes to soul culture, the skies, the winds, the mountains, the druid oak, the inspiring sea—all utter inspiring

words. Protection, hope, courage, benediction, inspiration are the voices of nature. The bending sky tells of the brooding mercy of God himself; the great winds prophesy nobler lives; the mountain in the grandeur of its lofty peak says climb toward heaven, it is only through struggle that heights are reached; the benediction of the wood awaits the weary climber upward; and the sea with its ceaseless movement inspires to action. Earth, the material, that of the earth, earthy, gets its price for what it gives us. All things are sold at the "Devil's booth." When evil is purchased, the price paid is in the coin of the soul. For trivial things, for the bubbles, the whole soul is put in hazard. But the good, heaven itself, is the gift of God, who gives himself for the mere asking. The glorious June, a choice gift of the divine beneficence, "may be had by the poorest comer."

The wondrous beauty of the June day brings heaven down to dwell upon the earth. She comes so close to earth that she may feel nature attuned to heavenly music. The murmur of life is heard—the very clod feels a "stir of might" "that climbs to a soul in grass and flowers." All nature is instinct with life and every tiny blade and leaf and blossom becomes the home of some happy creature. The thrilling life of meadow, hill and valley bespeaks the beauty of the perfect day. This full, rich life of the summer finds voice in the song-bird—the mother-bird sings to her nest, her mate sings to the world. Her sphere, though a narrower one, is filled with the music of her soul; he sings to the wider world and fills it with the melody of his being. "Which song was the best?" Each hath done what he could.

Now the earth is renewed—

"And whatever of life hath ebb'd away
Comes flooding back with a ripply cheer,
Into every bare inlet and creek and bay."

The heart partakes of the season's good cheer and comes into the fullness of joy. The presence of life and vigor is instinctively felt. One could not help knowing that the

blossoms swell; messages are borne on the breeze "that dandelions are blossoming near," "that maize has sprouted," that "streams are flowing," that "the river is bluer than the sky," that "the robin is plastering his nest hard by." But if the breeze did not bring the good news we should guess it all by the lowing of yon heifer and the lusty crowing of bold chanticleer.

Joy displaces grief, the beautiful June has brought unalloyed happiness and the heart turns heavenward. All nature inspires to the noblest effort; it is easy to be striving upward now. Grass is green, skies are blue, and so hearts may be true, because "'tis the natural way of living." All the struggle and grief are forgotten in the presence of the cloudless sky. The June day has become articulate with life and beauty, a peace has succeeded the storm. The clouds have fled, we know not whither, and the clear bending sky says to man, forget your sorrow and woe—let all these hurts of the stormy day

"Lie deep 'neath a silence pure and smooth,
Like burnt-out craters healed with snow."

The knight amid all the quiet glory of the perfect day remembers the keeping of his vow. Hope and aspiration are the emotions awaked in Sir Launfal's heart. The significance of this Prelude cannot be mistaken. The rare beauty of the June day is in harmony with the buoyant, hopeful heart intent upon the keeping of his vow. Attainment seems an easy task. The balmy air, the beamy light, the fragrant blossoms, all make life seem full of possibilities. The new life of the June day finds response in the vigorous, untried young soul of Sir Launfal.

He calls to his use such trappings as will harmonize with the mission on which he is about to start. He sees in the search for the holy cup a task in full accord with the most ceremonious preparations. Aspiration makes him earnest, hope points to a vision true.

The vision reveals the quiet beauty of the summer day; the crows by twos and threes, the drowsy cattle, the tuneful birds, the whispering leaves give a setting in contrast to the "proudest hall in the North Countree." The poet clearly suggests his theme by the contrast introduced between the bright, cheery day, the glittering array of the knight and the dull, gray, forbidding castle walls which typify the selfishness of the proud master. The light and warmth of summer in vain had endeavored to penetrate the chilly walls, every effort had been repulsed and the castle had remained closed save to "lord and lady of high degree;" no welcome to the lowly, no sunshine in the heart but winter reigning in the midst of the summer landscape. The brilliancy of the young knight's armor seemed to concentrate the centuries of summer's besieging upon the repellent castle walls and the surly clang of the drawbridge sounds the note of the inner selfish heart whose outward semblance is that of youth and strength, but youth and strength untried by struggle, by conflict;

"Sir Launfal flashed forth in his unscarred mail,
To seek in all climes for the Holy Grail."

Nature again gives a setting for the hope in the heart,

"It was morning on hill and stream and tree
And morning in the young knight's heart."

The castle is still the one blot on the scene, all else is joyous, but it stands alone rejecting the gifts of the sunshine.

As the knight by his gorgeous panoply illumined the gateway, his hope, his aspiration are turned to loathing by the crouching leper. His dainty nature is disturbed by the presence of the begging, moaning creature. The sunshine has not penetrated his heart to give the happy-starred young knight spiritual illumination. His heart responded not to the needs of the leper, so the coin that he gave was to rid himself of the unwelcome demand. Sunshine gave place to scorn, and heart ceased to pulsate with the warmth and glow of endeavor. When scorn enters the heart, t!

Lexington and Bunker Hill must have been a life-long inspiration. Harvard, which has given direction and impulse to so many Americans was almost at his door. We expect something from such environment, nor does Lowell disappoint us—an accomplished scholar, a successful teacher, a rare poet, our keenest American critic, a consummate diplomat, a profound patriot, and an earnest reformer. We scarcely expect to see in a man of studious leisure, fastidious taste, and conservative disposition the warm friend of the negro and the zealous advocate of his freedom that Mr. Lowell proved to be. We may reasonably doubt that he foresaw the influence he would have in quickening, as he did, the anti-slavery conscience, though it is a pretty clear note that he strikes in the "Present Crisis." So, too, we may feel fairly certain that his convictions on this point were reached through a process of development. There may be not a little of personal feeling in the opening lines of "Sir Launfal"—

"Over his keys the musing organist
Beginning doubtfully and far away,
First lets his fingers wander as they list,
And builds a bridge from Dreamland for his lay."

As the Texas controversy grew warmer it became clear that Garrison, Phillips, Giddings, Whittier had a new ally.

"They are slaves who dare not be
In the right with two or three"

was his cry. No doubt existed after that of his sacred convictions, his moral courage, and his disregard of popular favor. Mr. C. F. Briggs in a tribute to Lowell's grasp of higher politics and his devotion to moral principles says: "He will never narrow himself to a party that does not include mankind, nor will he dally with his muse when he can invoke her aid in the cause of the oppressed and suffering."

Too slow, we fancy, did Lowell find the world to agree with him. Freedom to him was a blazing principle, but it seemed to smolder in the hearts of his sluggish people. Yet he was firm in his uncompromising allegiance to humanity and right, believing

in the final triumph of Truth though dragged to the scaffold.

"Truth forever on the scaffold, Wrong forever on the throne,—
Yet that scaffold sways the future, and behind the dim unknown
Standeth God within the shadow, keeping watch above his own."

He opposed the Mexican War, but the fight went on. He condemned slavery, but the master's grip tightened. The world grew weary of exhortation, and it was hardened against invective. Lowell had fired his heavy guns, and his ammunition was gone. No resource seemed left. In this extremity, by merest chance as we learn, he bethought himself of *wit!* and the world soon found that, as the poet himself puts it, he held in his hand a mighty weapon instead of the fencing stick he had supposed. And Yankee at heart as he was, steeped in New England spirit, tradition, and affection, Lowell saw the plain, droll, ungainly Yankee dialect, sparkling with wit and pointed with satire, thrilling the public conscience as all his fine verses had not.

"The Plowman's whistle, or the trivial flute,
Finds more respect than great Appolo's lute."

Many a ray of hope while the days were growing darker must have accompanied those cutting, though whimsical prefaces in prose of the Rev. Homer Wilbur, and the lively reflections of Hosea Biglow, with now and then a droll performance by Bird-freedom Sawin. Curtis calls it humor of the purest strain, but humor in dead earnest.

While the abolitionists were still in the minority; while Mrs. Stowe touched the hearts and the sympathies of two continents with her marvellous story; while John Brown was agitating in Kansas; while Beecher was hurling his eloquence at the sullen crowds in Birmingham and Liverpool, Lowell kept lashing away with his Biglow Papers. They concentrate the profound emotions of a nation; they cheer the drooping spirits of patriots; they picture the South in an attitude first ridiculous, then wrong; they chide Brother John across the

sea for his unbrotherly spirit; they give Lincoln an argument of the question on his own side and in his own style—the plain speech of the plain people. Satire must of necessity lose some of its point by lapse of time, and yet, even to-day, where better do we find portrayed the sophistry of the South than in these lines:

"The mass ough' to labor an' we lay on sofies,
Thet's the reason I want to spread Freedom's aree:
Its puts all the cunningest on us in office,
An' reelize the Maker's orig'nal idee,
Sez John C. Calhoun, sez he."

or in these:

"The fust thing for sound politicians to larn is,
Thet Truth, to dror kindly in all sorts o' harness,
Mus' be kep' in the abstract,—for, come to apply it,
You're sure to hurt some folks's interest by it."

Lowell was hopeful of the present and had faith in man. Not a faith which can not see God and which must look to the hereafter for the solution of perplexing doubts, but a divine faith that was stronger for the strong right arm of true Americans, armed for the truth. He believed in Phillips—

"Fanatic named, and fool, yet well content.
He saw God stand upon the weaker side."—

and in Giddings—

"Fear nothing, and hope all things, as the Right,
Alone may do securely: every hour
The thrones of Ignorance and ancient Night
Lose somewhat of their long usurped power,"

and once more,

"Count me o'er earth's chosen heroes,—
They were souls that stood alone."

But Lowell readily saw who led all the rest, and the fullness of his human faith cen-

tered in Lincoln. Nowhere else in all his writings does he so reach the sublime as in his tribute to "Our Martyr Chief."

"Wise, steadfast in the strength of God, and true
With brave old wisdom and sincerity!
Here was a type of the true elder race,
And one of Plutarch's men talked with us face to face.
Sagacious, patient, dreading praise, not blame.
New birth of our new soil—the first American."

If Lowell differed greatly from Lincoln in temperament and culture, as he did, it is not too much to say that these two American types were alike in their broad humanity and their intense patriotism. Referring once more to the eloquent eulogy of George William Curtis he speaks of Lowell's life as a glorious service, and of his memory as a benediction. "His career was one of progress, and his moral earnestness was beneficent and stimulating."

The charge of his disloyalty to America and American institutions, sometimes made even at this late day, must issue from ignorance or prejudice. If he has decried some of our un-American tendencies the fault is in ourselves, and the credit his. Lowell was independent of majorities, and impatient with the servility that makes men slaves to party rather than adherents to principle. Basing his political duty upon individual conscience and common sense, with high aspirations toward lofty issues, with a sublime faith in the destiny of his people, we must more and more come to recognize in Lowell an apostle of freedom, and a grand type of a splendid American.

TERRE HAUTE, IND.

COLERIDGE'S ANCIENT MARINER VIEWED AS AN ALLEGORY.

WILLIAM A. MCBETH.

INTRODUCTORY.

MANY different views have been expressed as to the merits as well as the purposes of this remarkable poem. The criticism is made by some that it is an incoherent piece of patchwork, having little, if

any evidence of plan or purpose, except it be to mystify or startle the reader. Some have even declared it to be the phantasy of a mind distorted by dissipation. Others, however, have called it the most wonderful of poems and its author the greatest of men.

De Quincey himself, a brilliant man in the literary world, held these, to us unappreciative mortals, somewhat extravagant views, but while the world gives to Coleridge high meed of praise, time has not justified the statement. The belief has been expressed that it is the allegorical expression of a deeper psychological meaning than the superficial reader may think. Coleridge was a man of great fertility of mind, a student and expounder of philosophy. He had peculiar and original views in regard to religious and social problems. His religious views he changed from time to time as seemed to him reasonable. His social views also varied as he received new light.

Does the poem embody the religious creed of its author? If so, what may appear of his probable views of particular dogmas, of various sects? Does he believe in predestination, free will, salvation by grace? Is he a Unitarian or a Trinitarian? May he not seek to show the relation of man to the universal order; his relation to the humble lower creatures, to his fellows and to his God? Whatever may be the true interpretation, it seems left to the acute searchers of later times, rather than the time of Coleridge himself, to discover. Neither he nor his contemporaries have given a clue to its purpose or explanation. The poem must furnish its own interpretation if it has any.

It is thought that an examination of the poem with reference to this allegorical meaning and its interpretation might not be amiss. However imperfect the result, it may be at least suggestive. Various difficulties suggest themselves that might not appear, for instance, in *The Pilgrim's Progress*, to which I conceive it to have some resemblance. Instead of being the somewhat formal pictures of a plain unlearned man, who was anxious to have his similes understood as in the allegory of Bunyan, this production is, first of all, picturesque, free, poetical, intended perhaps for delectation rather than for edification. Moreover, Coleridge's breadth of intellect and learning leaves much freer scope

for the variation of his moral, social or philosophical views. Thus, it is evident that to discern what may be the true or intended value of his similes in several possible interpretations, would be more difficult in Coleridge's case than in Bunyan's. Coleridge may be entirely willing, even desirous, to mystify by the use of his figures; Bunyan desires to explain, clarify, illuminate.

The figures used in *The Ancient Mariner* are not all new and strange. The journey, whether as a pilgrimage, as in *Pilgrim's Progress*, or as a voyage, as in this poem, is a familiar figure for the course of life. The ship is the type of organized state or society. The white-winged bird is a usual type for the spirit, or for a spiritual attribute. The various figures and their meanings will necessarily receive more minute attention in the examination of the poem as a whole. There is in a piece of literature for any reader or student just so much as he is able to find. To the untutored savage, the precious gem is of no more value than a bit of glass or quartz, but to this same savage, what proficiency is attained by practice in tracing his prey or his kind by the broken twig, the trodden flower, or grass. So to the student of literature, new insight and clearer views come as the reward of diligent toil and ardent devotion, as additions to treasures already gleaned from wide fields of knowledge, observation, and experience. If this examination, crude and frivolous as it may seem, shall give but a faint clue to an abler mind, by which greater things shall be brought to light concerning this poem, the writer shall have attained a result most satisfactory and pleasant to himself.

THE ANCIENT MARINER.

PART I.

Three young men are on the way to a wedding feast; they meet a hoary, wrinkled traveler, who detains one of the three, to whom he relates a wonderful tale of experience. We may think of the young men as inexperienced worldlings, bent on the enjoyment of a season of transient merry-mak-

a sin committed. The tongues that should have been able to speak and sing praises are parched and paralyzed. Now they turn upon the cause of their misfortune the reproachful looks of condemnation, and determine that the deed shall return to the doer.

"Instead of the cross, the Albatross
About my neck was hung."

Instead of the emblem of Love and Hope, the memory and token of sin—a guilty conscience.

CRAWFORDSVILLE, IND.

(Continued in November.)

SOME ELEMENTS OF TEACHING POWER.

SUPERINTENDENT WELFORD D. WEAVER.

THE pleasant hours of a delightful vacation have sped rapidly. This month finds us face to face with the duties and responsibilities of another year of work. You certainly have not come to this work at this time empty-handed. You are refreshed, invigorated, and ardent. This rest—a new supply of health and enthusiasm will certainly be seen in the final success of the work we are about entering. I fancy that as you again enter upon the duties of a teacher and assume the grave responsibilities of such a position, you have broad purposes, higher hopes, and clear ideals, which will aid in overcoming the difficulties, and bring finally a successful achievement of noble things to each one. It is certain that every work of nature, every masterpiece of art we have seen, every enriching article we have read, the long hours we have spent in careful study, the companionship of other minds and hearts of the vacation, all have ministered to our growth, and to-day we stand better fitted to minister to human souls than ever before in our lives.

I congratulate you, fellow-workmen, upon being school-masters and school-mistresses. If you are true teachers your paths are where obligation and delight walk hand in hand; where duty and pleasure are one; and where the task which demands our highest exertion is made as nothing because of the charm and zest which come with the imparting and receiving of knowledge.

The teacher's task is a delicate and complicated one, for "living stones" are the things which are used. Within the child-life are powerful and elusive forces constantly at work, and these respond to still more powerful forces from without. How often have I thought if only child-life could be made into the highest type of man-life just as a watch-maker can make his watch, how simple would be the problem of teaching! It is not so, and it is well. These "living stones" with all of their tendencies must be studied and trained in the midst of their entanglements. These lives entrusted to our care must get an uplift; they must become fascinated by higher things; they must feel a sense of growth as in spring life; they are to be moved into better ways—yes, we are truly to make life for them.

With this conception in mind, I have thought that for the initial paper of this school year *Some Elements of Teaching Power* would not be inopportune. There are some elements of teaching power which must ever be secrets—mysteries, for they elude speech. Poets, artists, musicians, preachers, mechanics, teachers have always failed to impart the genius of creative skill. Many have been the attempts to discover and describe success, but as yet, no one has been able to completely do so. Yet there are some elements which may be known and told. The teacher is a man and much will depend upon his manhood; he is a teacher.

and much will depend upon his knowledge and power to impart and instruct: and to be still more specific, one secret of teaching power is the

PERSONAL ELEMENT

it contains. I feel unable to acutely analyze the mysterious something which gives so much power for good or bad to each of us. Men want to come into contact with this personal element in another, and for this reason are willing to pay fifty cents to see and hear the speaker, when for five cents they could buy the address in the next morning's paper and read it at their leisure. Teaching is not only a mind to mind contest but a soul to soul contest. If the teacher's thoughts and words are to burn themselves into the minds and souls of the children, they must be thought out at white heat, so that when he stands before the pupils his face must give power to his teaching. The kindling eye, the play of emotion on the countenance, the erect and quivering body, the flush of blood to the temples, the momentary pause for reflection, all that belongs to an intense and vital life, grappling with great thoughts and urged onward by great desire should fill the being of that person who attempts to teach. A personality on fire like this will capture those with whom it comes in contact. Other things being equal, a strong personality is aided by vigorous health and a sound body. A pale face is not *prima facie* evidence of a scholar any more than it is of saintliness. Neither is a strong physical frame a sign of great personality. Oftentimes men of imposing presence, from whom you have naturally expected much, have lost all power with you the moment they opened their lips, while others whose bodily presence provoked mirth have fascinated you so that you could hardly escape their magnetism.

It will hardly do, from a partial induction of facts, to generalize; but I desire to place large emphasis upon an intelligent, conscientious, reverent care of the body. There are some things for which teachers as well

as others are not responsible: birth, height, color of hair and eyes. Many have had and are now having a tremendous contest with inherited and constitutional tendencies. Yet, while all of this is true, there is one debt which it is highly necessary that every teacher should fully pay to the last farthing—an intelligent care and consideration for the body. The debt to yourself, which you owe to your brain and lungs and stomach and body should be paid a hundred cents to the dollar. I do not advocate self-indulgence, but just such a wise oversight of this "temple of God" which we call body, as the owner of horses would give to the animals in his stables. It is the moral element in physical culture that I am pleading for. It is in the very nature of things impossible for any one to treat his body with negligence and disregard, without suffering in intellectual and moral power.

This personal element has in it much for good or bad in the personal habits and dress of the teacher. There is that which is within that controls all the outward life. A sense of the true fitness of things seems to pervade all that is done. An Irishman who was poor and uneducated, without polish, and ignorant of social etiquette, told his pastor that he always put on his coat before he conducted family prayers. The act was a little thing but it had in it a world of meaning. Doubtless God would have heard him as easily and truly had he prayed in his shirt sleeves, but the man felt that his God was entitled to the same courtesy and respectful approach which would be observed in calling upon personal friends. That man was true to the fitness of things.

A like fitness of things should control all of these outward proprieties of a teacher's life. A teacher can in no way lose power and influence with pupils more surely and quickly than to appear from time to time before his school slovenly dressed. There is an everlasting inconsistency between a great teacher and a dirty collar; between great

learning and careless attention to the clothes which cover the body. To come daily before a body of persons, so impressionable as are children, without great care as to dress and general personal appearance is, to say the least, neglectful of a source of great power; and, in some instances, I do not know that I am putting it too strongly when I say it is almost an insult to the children, and indicates a lack of self-respect on the part of the teacher. It is a pleasure and an inspiration to look at a person neatly dressed, with hair combed, with face smooth and clean, with shoes tied and black. The children appreciate such tokens of culture and taste in their teacher even more than do older persons. Every year have I overheard heated discussions between pupils of different rooms regarding the taste exhibited in dress and general appearance of their respective teachers. All of this leads me to believe that the teacher's appearance has great weight with the pupils.

This would be incomplete if no mention is made of the teacher's face. It is this that the children will study as well and as truly as they will their books. Who can measure the power there is in the face of the teacher? It is, indeed, an affecting sight, as the teacher passes into the school-room, and a hundred eyes from fifty souls are turned longingly and anxiously into his face, wondering what will be done. And they have not made a mistake as to the place they may expect information as to coming events. Childhood is true to nature, and it looks into the teacher's face because nature there reveals what is going on within. The expression of the master's face as he enters his work in the morning may make or spoil all of the efforts of the day. A frown to begin the work of a session is sufficient to make all plans for the present miscarry. To go before a class with a countenance gross and stupid from eating, or dejected and weary because of an evening or night of dissipation, is keenly felt by the pupils through the oppression thus brought into the room. Oftentimes

rapid and substantial progress in a room may be attributed to the cheery eye, the sympathetic glance, the helpful smile, and honest integrity as they are seen in the face of the teacher by the children. A strong teacher has a strong face, and we do well when we give earnest heed that we radiate nothing but great dignity and spiritual beauty and worth. We express with certainty our desires, aspirations, principles, beliefs, motives, passions, affections—all those things which go to make manhood, through the face. They are there read by the pupils with more emphasis than anywhere else. The face reflects the spirit of our lives. To impress others for the best we must look and be our best.

A TEACHING SPIRIT.

This is another one of those elements difficult of definition yet potent in effect. The teacher is not to grind a school, it is his business to make life. It is not to turn a wheel, it is living work, building work. True teachers are man-builders. There is no calling among men, to which they address themselves, worthier of man's highest endeavor than teaching.

In the opinion of men there is a widespread impression that if one brings to the office of teacher scholarly habits it is sufficient for success. Sometimes, I am sorry to say, this, even, is not thought of by those who would teach. The fact that it is easier to make teaching a stepping-stone to other things than to use other methods of gaining the ultimate ends of life, has led many to believe that they can teach. What of the results of such workmen? Many instances come to me, and I am sure to you, of persons of learning, with breadth of thought, who have been failures in the school-room. There are those, too, who have been and are teaching for the money in the work, and their work has been and is as barren of results. The failure lies largely in the lack of the teaching spirit.

Teaching-power is heart-power. And the

amount of heart-force that is put into the work will measure very surely the quality and amount of the fruitage. Pupils must see love of work and sympathy with childhood beaming out of the teacher's eyes. They must feel the heart-throb in their hearts before they are fully responsive to the efforts of the teacher. Jewish rabbis used to say that God could not be everywhere and therefore he made mothers, and I would add, teachers. One can not be an effective teacher without his heart being in his work. One cannot afford to be a teacher if the work is not love-work. If the work is a burden, if the children are looked upon as so many nuisances, to be endured from day to day, an essential element is wanting. He who undertakes to teach the young, who tries to solve those endless problems that are coming to the teacher all of the time, must love his work and his pupils. He must be conscious that his heart goes out to them, and he must yearn for their welfare as in the latter days of winter we long for the coming of the birds and their singing, or the spring with its life and sweetness. When the teacher is filled with such feelings how patient he becomes with a restless school, a dull boy, an unruly pupil, an angry patron.

It is this element which will conquer many a difficult task and it will often bring a victory from what seems to be the impossible. The bodily presence of the teacher may be weak, the manner ungraceful, the speech plain, but if his heart is on fire his words are powerful with the emotion by which they are swayed. Prejudice is disarmed and opposition is conquered. Jeanie Deans, in the Scottish story, made her appeal in behalf of her unhappy sister before Queen Caroline, bowing low in the royal presence, fearless of the corruption which environed her, pouring forth her intensest feelings in words simple, tremulous and direct, her eyes aflame with indignation or melting with tears of tenderness, and every feature, gesture, attitude bespeaking an unwavering conviction of truth and right, all because there was heart-

power within her. The queen, overcome with surprise and emotion, at length exclaimed, "This is eloquence!" Love had conquered, and a sister was made free. When this heart-power—love for work—the teaching-spirit, possesses one, there is a warmth which goes out from that life to others, like spring with its sunshine and rains to the fields and forests, as winter leaves them. Everywhere on the pages of history do we find that men respond to lives full of sympathy and affection.

This love must extend farther than to matter and method of our teaching. It must include the children who are taught. The average person naturally should love his family and intimate friends, but the teacher should not only do this but have a master-passion for the pupils. It is easy to have genuine sympathy and respect for a few pupils (those who are bright and neatly dressed and well-behaved), but I fancy there is not always as much of this love for all of the pupils on the part of the teacher as there should be. There must exist a real, profound love for the pupil in the heart of the teacher if there is to be genuine power over and in that child-life. It is impossible to teach profoundly without a strong and deep appreciation of childhood. The difficult boy, the wayward girl of our school-rooms will be conquered, and conquered only by the heart and life of a teacher who has the love-passion for children.

MARION, IND.

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS.—X.

INTEREST.

Interest is the remuneration which capital commands for its services in production. While capital may be wealth of many different forms, it is always reduced to a money valuation for the purpose of determining the rate of interest it is to receive.

The right to receive interest for the use of capital has been much disputed. The practice was opposed among the Hebrews. Some Greek and Roman writers thought that to take interest was as great a crime as to commit murder. In the Middle Ages the Church taught that it was wrong to receive interest, and in some cases it

was prohibited by the State. But whatever the opinions concerning the matter are, the taking of interest has become an established custom, the right of which is claimed to rest upon the right of private property, and is as much a subject for economic study as rent and wages. Wherever capital is used, interest is taken into account in distribution, whether the capital is owned by the operator or loaned to another. In estimating the cost of production, interest is reckoned as one element of the cost. Since interest is an economic question, the laws which regulate the rate of interest must be studied.

CAUSES REGULATING THE RATE OF INTEREST.

The chief factors in determining the rate of interest are supply and demand. Since capital is reduced to a money valuation, interest may be considered as the price paid for the use of a certain amount of money for a given length of time; and we said in an earlier paper that price is regulated by supply and demand. The effect of supply and demand upon the rate of interest is the same as the effect of supply and demand upon the price of any commodity offered for sale in the market. A supply greater than the demand lowers the rate of interest. This is natural since the man having capital to invest prefers to take a lower rate of interest rather than have his capital lie idle; and the rate will fall until the demand has used up all the capital offered at any given rate. A demand greater than the supply will raise the rate; and it will continue to rise until the demand is satisfied. The maximum rate of interest will be reached when enough wealth has been converted into capital to supply the demand, and the minimum rate will be reached when no more capital can be had at the rate of interest offered.

The rise and fall of the rate of interest is not so great or so sudden as the rise and fall of the price of goods; since the causes which regulate the supply and demand of capital are of a different nature from those which regulate the supply and demand of corn, cloth, iron, and other commodities.

CAUSES GOVERNING THE SUPPLY OF CAPITAL.

1. *Amount of wealth available for capital.*—It is evident that the amount of capital which may be invested will depend upon the amount of wealth in existence. The accumulation of wealth is the result of consuming less than is produced, or, as some economists puts it, accumulated wealth is the result of abstinence. The individual or the nation which consumes its wealth, for final gratification, as fast as produced, will never accumulate much wealth, and can have but little

capital. There is in different individuals, and in different communities, a great difference in the disposition to save. Industry is no less important than frugality in determining the amount of wealth. The two are mutual aids in the accumulation of wealth.

2. *Industrial conditions.*—A second cause which regulates the supply of capital is the industrial condition of affairs. The capitalist who contemplates investing his capital himself, or loaning it to another, will first consider the condition of the business into which his capital is to be put. He will consider the risk he is running in getting his capital back again, or in getting the interest expected. If the risk is very great he may prefer to let his wealth remain idle rather than run the risk of losing. Should this happen, the supply will be lessened, and (in order to secure capital) a greater inducement must be offered in the shape of an increased rate of interest.

There are several things which may go to make up the risk. The lender of capital considers the honesty and financial standing of the borrower in estimating the risk he runs in loaning to him. Business men keep posted upon the "ratings" of other business men with whom they have dealings.

The character of the government will have much to do with the rate of interest which it must pay for the money it borrows. An examination of the rate of interest which honest and stable governments pay, as compared with that paid by unstable and dishonest governments, will prove the statement. This is true, not only of national governments, but also of state and municipal governments.

The attitude of a government towards the finances of the nation may create distrust to such an extent that panics may come and so disturb business that contracts cannot be kept. Under these conditions capital will be withdrawn.

The laws governing contracts between debtor and creditor have much to do in determining the risk.

The character of the business itself will, in a great measure, determine the risk which capital runs when invested in it. Men are willing to trust their capital in enterprises that have proven successful, but new and untried enterprises must offer inducements sufficient to overcome the risk, in order to secure capital.

3. *The length of time capital is to be employed.*—More wealth will be turned into capital and invested when it can be invested for a long time than when the investment can be made but for a short period. Governments can usually get

money at a lower rate than individuals, because their loans are for longer periods.

CAUSES GOVERNING THE DEMAND FOR CAPITAL.

1. *The productivity of industries.*—Large returns from industry make men anxious to engage in production, and so more capital will be needed to carry on the enlarged business. If the returns from production fall off, the volume of business will be restricted and less capital will be wanted. It is important, then, in order that wealth may be used as capital and not lie idle, that times be prosperous; thus, whatever leads to prosperity will increase the demand for capital.

2. *Emergencies.*—Wars create a great demand for capital. Nations do not keep on hand funds sufficient to pay the expenses of war. This makes it necessary to borrow money in times of such emergencies. They often borrow large sums for public improvements, rather than tax the people heavily at once. The bonded indebtedness of most of the governments is very large.

Emergencies often arise among business men causing great demand for capital, with which they may meet their obligations and keep their business running.

3. *Opportunities for industrial enterprises.*—Whatever opens up new fields for industry (or enlarges old fields) will create an increased demand for capital. The discovery of mines, the opening up of new territory for settlement, the building of railroads, the making of canals and harbors, all tend to enlarge the industrial world, and call for increasing amounts of capital. Whatever will increase the opportunities of engaging in profitable business will increase the demand for capital.

Some things which increase the demand for capital will also increase its supply. If the supply keeps pace with the demand, there will be no change in the rate of interest. There has been in recent years a steady fall in the rate of interest, due to the fact that the demand, though constantly increasing, has not kept pace with the increase of capital offered for investment.

I. M. BRIDGMAN.

POLO, ILL.

ON THE HISTORY OF EDUCATION.—II.

MORNING.

When Christ came upon earth, teaching that God is the Father of all men, He was historically, as well as spiritually, the Light of the world, and in Him the sun of modern educational thought had risen. It was day! The mists of prejudice and ignorance rose in clouds and dimmed the morning; at times dark and threatening storms lowered, but the light was come!

It is our custom to reverently refer to Christ as "The Great Teacher," but seldom are we possessed of a true appreciation of the greatness of His teaching, or an intelligent comprehension of wherein the greatness lies. To be sure, He called little ones about Him, laid a gentle hand upon their heads, took them in His arms and blessed them continuously with the light of His kindly, sympathetic presence. To be sure, He taught the multitudes, simply and patiently presenting the great truths He would impart in parables, that they might understand. Milk for babes, meat for strong men it was his custom to give. Important as are these examples, they show forth not the truest greatness of the Master.

He bore a message never before heralded among men. He lived and taught an absolutely new principle. It was: "Before the One Father creator of man and the universe, all men stand equal." This was the gospel—good news—of the Christ.

This, indeed, could but bring "a sword," for it was at variance with all established institutions. Those in high places might smile and turn aside, but what did it mean to the lowly, to those in the chains and under the weight of heathen cast or patrician rule? Certainly it meant all that truth may mean to intelligence; all that light can mean in thickest darkness. They could receive but little light at first, but it stirred the deadened sense of their own dignity; it called the sleeping spark of divinity within, and they arose staggering and blinded, to follow the lead of truth.

That the early Christians were, in the main, of the lowly, simple people, was a result consistent with all conditions, and the fact that it was thus, has plainly shaped the whole course of education for many years.

Man, now for the first time in history, had an importance apart from race, position or condition—simply as an individual. Working upon this new principle, education began its second era.

The first schools were established to fit candidates for baptism, and were known as catechetical schools. Here were taught the fundamental Doctrines of the Church, the ten commandments, and the Lord's Prayer. In the main, teaching was purely dictatorial; a memorizing by rote. Limited as is this beginning, according to our ideas, let us not fail to observe how consistent it was with the ideas which led to its establishment. The Christians had suddenly come into the knowledge of their dignity as sons of God and brothers of all men. Man's injustice they knew; God's justice and mercy they trusted; therefore, at once Heaven, or union with God, became their

great aim. Their experience was of too practical a sort to hope for much that was good upon earth. All the strength of their imagination centered in creating blisses to compensate for the hard, barren, meager life of the present, which, since some excuse for its existence must be found, was declared merely a preparation, a discipline, to fit them for the bright other world. This, their hope, came to them through the Christian religion, and through that alone. Hence the things which would fit their children for life as a part of the Church, and ensure them this heritage hereafter, was the thing of all others to be desired. This was the province of the catechetical school.

From our point of view, their rejection of all the wealth of pagan learning seems strange, but with them, it was most natural. As a class, they knew nothing of the delights and benefits of a well-stored, cultured mind, which brings a man into such unity with the universe that its great life thrills his pulses. He could not conceive that such life, such fullness of harmony is Heaven—the beginning of eternity's joy within the borders of time. They only knew all this pagan learning had brought to them neither freedom, happiness nor hope. It was a part of the old regime of vice and oppression. If not pure evil, a dangerous mixture to be spurned. Their single departure from the rule seems to prove the wisdom of it. The first theological system grew out of the discussions of the catechetical school at Alexandria, where, since many versed in pagan lore came to be instructed, it was deemed necessary to have teachers who could answer their doubts with equal wisdom.

Schools in monasteries, taught by monks, were the second logical development of the fervent religious spirit of the time. From believing that this life is but a preparation for the next, it was but a short step to the belief that the greater the suffering and privation in *this*, the greater the reward in the next. This ascetic spirit reached its height in the fourth century. In the mean time, and despite this fact, the curriculum of study was broadened a little, even under the monkish rule. While the asceticism of the monk remained a live and vital element, he was a good monk and an honest teacher, but when by virtue of its very nature, the wave of enthusiasm had spent itself, he was no longer genuine, nor was his teaching. His fall resulted from fatal effort to make a transitory institution permanent.

Charlemagne, with whom we associate the date 800 A. D., was probably the first man who conceived the idea of a public school system. For the first time, during his reign, education was

separated in scope from religious rites and purposes. From his time on, the idea of schools as an independent institution, gained ground.

At length chivalry develops for itself a system of training for young noblemen. In its way, it was quite complete, and placed knowledge-getting in the proper relation to doing and being.

Soon the trades-people, doubtless feeling the inadequacy of the church-school, established what is known as the burgher school. These seem to be the far-off ancestors of the commercial high school which still lies before us.

Let us not lose sight of what these simple advances imply. First, learning has now a recognized importance aside from its aid to religious services. Schools are passing from under the control of the Church and religious functionaries; because, alas, she has grown unworthy. The knights establish schools of higher morals, and purer ethical teaching. Female education was not overlooked by the knights' scheme, and even in the nunneries, women were beginning to be taught something of letters. The Mohammedan learning pressed close, and ambitious Christian youths went abroad to study chemistry and algebra, and brought home with their learning the beginnings of a belief in the good of the present life, and the value of knowledge, aside from its value as a passport to blisses beyond the grave.

The rise of the universities is the crowning proof that many men were thinking of many things. One of the first established itself at Bologna in 1200. The movement began by the banding together of learned men and aspiring youths in free associations. Their only bond was the desire for knowledge, and the advancement of science. Thus conceived, the universities were, from the first, independent alike of Church and State.

More than twelve hundred years after the reception of the Great Truth that Christ taught, only this much had been gained. And it must be remembered that it was, in the main, a gain in principle, and affected the conditions of a comparatively small number of the people. "Yet, the long period of the Middle Ages was not without blessings for mankind," says Mr. Painter. "It was the winter that gathered strength for the blossoming spring and the fruit-bearing of summer."

HARRIET HICKOX HELLER.

OMAHA, NEBRASKA.

Truth is tough. It will not break, like a bubble, at a touch; nay, you may kick it about all day, like a foot-ball, and it will be round and full at evening.

THE SENSE OF HUMOR.

Some one very aptly says: "A thoroughly healthy martyr is he who is glad to escape from his martyrdom as soon as he has exhausted all that is essential and unavoidable in suffering." To run away from necessary pain is mean and ignoble, but to shut out from our lives every ray of humor, as if light were an evil thing, is no less ignoble. We sometimes take ourselves too seriously, and cannot conceive that in our very seriousness we are ridiculous. We can neither laugh at ourselves nor permit ourselves to be laughed at.

In September, the teacher enters a room twenty by thirty, with enough moral force, heroic self-denial and sense of responsibility to fill the executive department of the United States government—perhaps more. His nerves are at their utmost tension; sternness sits enthroned upon his brow, and as the days advance he grows more serious. This, by the way, is his picture in early youth. He either dies young or begins to see the humorous side of life. If he does not go through the formalities of a funeral, it is one and the same. He ceases to be in touch with humanity, and his existence cannot be called life. We must see things in their proper relations, and while doing our little part with tremendous earnestness, we must realize that the care of the universe is something beyond us, and that the genial spirit of humor is not a tempter calling us from duty, but a ministering angel able to help us when the work seems too hard.

There are times when tense nerves and overwrought minds and bodies need above every earthly good a hearty laugh. The difference between frivolity and humor is as the difference between artificial and natural. Frivolity would cover the real purpose of life with a make-believe pleasure; humor is genuine, and often springs out of our most trying experiences. It does not hide the truth, but rather reveals it in its gayest dress.

We love to look into a strong, true face none the less because the artist humor has smoothed and modified the lines of sorrow, and has put a merry twinkle into eyes that have seen too much of tears. Humor gives strength, not weakness; and that character is most invincible to every foe which has in its make-up a goodly proportion of humor, along with the virtues which are essential.

"If we have really made the most of ourselves and our experiences, we shall not miss the fine gift of deeply and good-naturedly laughing at ourselves, and we shall often save other people from having to do it for us." The man who gets far enough away from a mistake he has made to view

it in a spirit of humor, has forever arisen above the possibility of committing a like error again. Wrong motives can never be viewed in this genial light; but motives being right, we can well afford to laugh at our early bungling efforts which aimed everywhere, and hit nowhere.

Now, as teachers, we are engaged in the most serious business on the face of the earth. In this work of character-building we are expected to do much preliminary clearing away and tearing down. What parents and guardians have failed to do we must do; what they have done unwisely we must do over again out of the abundance of our wisdom—such abundance! Well may we groan in agony of spirit at the thought of the task before us. But in the very midst of school work, when the burden and the grind are growing unendurable, our good angel, humor, comes to our assistance and worries disappear as darkness before the rising sun. Children love humor; it is a part of their own nature; we wrong them and ourselves if we try to exclude it from the school-room. I shall never forget an incident that plainly showed the power of humor. On an exceedingly warm afternoon the children were restless and dissatisfied. One little Irishman especially used his ingenuity to annoy everyone within reach. At last I started for the culprit; a look of abject terror came over his face so ludicrous in contrast to his offense, or the punishment I had meant to administer, that in spite of myself I laughed outright. The whole class, my small culprit included, caught the spirit of the thing and we all laughed together. There was no more restlessness that afternoon. The atmosphere was cleared. Humor must be spontaneous, but if the conditions of the school-room are kept right for it there need be but few days that are not made brighter by a laugh or a quiet ripple of fun.

The struggle for spiritual freedom which begins with our self-consciousness and ends we know not where, is a struggle real, and fearfully in earnest. All the more do we need that God-given sense of humor which is a gift of infinite value. It is one of Love's own children, for it is always kind, and its mission is to keep us from growing hard and unyielding because we do not find the world exactly as we dreamed it to be.

Richard LeGallien says of man in his spiritual struggle: "He is still Prometheus, and there is no limit to what he can bear. Let the vultures of pain rend his heart as they will, he can still hiss 'coward' in the face of the eternal. Nay—he can even laugh at sufferings, thanks to the spirit of humor, that most blessed of ministering angels, without which surely the heart of human-

ity had long since been broken; by which man is able to look with a comical eye upon terrors, as it were, taking themselves so seriously; coming with such Olympian thunders and lightning to break the spirit of a mere six-foot of earth!"

Perhaps, if we take to our hearts a little more of the humor of things, a little less of needless suffering, we shall stand at last with spirits which cannot be broken, let the storms of life rage as they may.

BERTA KNOWLTON BROWN.

OXFORD, O.

SCIENCE IN THE TEACHING OF ENGLISH. XV.

THE CYCLE AS A MEANS IN LANGUAGE WORK.

[In Two Parts. Part II.]

Having thus far discussed the cycle in general, its use as a means of language work will now be considered more particularly.

Perhaps the first question to arise in discussing this phase of the subject would be one as to just what material may best be used for first grade pupils, for second, and so on. Certainly the simplest material must be used with the most immature minds, and as the pupil advances in maturity the material presented should be correspondingly more difficult. The material for this work may be taken anywhere from the two great realms—Man and Nature. Both, as we have seen, show varying stages or degrees of activity. From the simplest or most familiar of these the material for the youngest pupils should be taken. It would not be so appropriate to take some activity from the realm of botany or of the state for the youngest pupils, as one from the realm of space or of the family. The following makes perhaps the best general distribution of material: For pupils of the first year, cycles from the realms of space and family; for second, cycles from the realms of physics and the school; for third, cycles from the realms of geology and the industrial world; for fourth, cycles from the realms of astronomy and the social world; for fifth, cycles from the realms of botany and state; and for sixth, cycles from the realms of zoology or physiology, and church. After the sixth year the time is taken up with the more technical study of English grammar.

Three very appropriate acts from the realm of space are the formation of the straight line, of the right-angled triangle, and of the square. Is it objected that something of more interest than the line, the triangle, and the square might be given the child to talk about at this stage? True interest roots itself in a sense of progress, and when the pupil is using the terms appropriate to the line, triangle and square, he surely has the feeling

that he is progressing. What he is gaining in the way of vocabulary alone would be sufficient to make him have this sense of progress. Care must always be taken, of course, that every term used by the child shall mean something to him.

So far, the work discussed has been directly with the building up or development of the series of sentences composing the cycle. Now it will be shown how a great deal of other work may grow out of the work with the cycle. For purposes of explanation let us use again the cycle on the straight line.

The first work which grows out of the cycle work is reading. The sentences of the cycle furnish all the child's first reading work. This starts the pupil in reading from the right direction. He bears in mind the word through having mastered it orally first, and when he sees the written or printed form for it, the form means something to him and is much more easily retained. While, if the pupil begins with the printed or written form, his effort is after the form. It is like the way in which so many of us have studied Latin, by carrying the language in the eyes, instead of in the mind through the ears. When the teacher is ready to have the pupils read, she may ask for the first point in the formation of the straight line. Given, she may point to its printed or written form, both may be on the board, and say, "This says, 'The point rests.'" When the pupil recognizes the sentence sufficiently well, a new one may be taken; and after the first, the new sentence should appear with one which the pupils have had, in order to lead them not only to recognize, but also to distinguish the sentences from each other. When all the sentences have been learned in order in this way, the teacher may write them in order in a paragraph, and let the pupils learn to read them in that way; then, as a third way, she may take any one of the sentences, the last first, or in any order, and present them isolated in written or printed form. This tests the pupil's power of reading the sentence, with which, by this time, he should be thoroughly familiar. A fourth way, and a final test, is to present the written form of a part of the sentence, from the action word on, and let the pupil supply the remainder of the sentence. Printed and written slips, bearing each a sentence, may be supplied to the pupils.

This kind of reading work grows rapidly less after the first year, as the reading proper soon makes it less necessary; but as introductory reading it is very valuable. It is remarkable how readily children learn to read sentences in this way.

The first work in spelling, too, has its source in

the cycle work. Those words which the child has been using in the sentences of the cycle, he learns to spell.

There is a kind of work, more than spelling, but akin to it, which should move along with spelling. It is the study of the sound in relation to the structure of a word. The work is in opposition to diacritical marking, and is intended to give the child *power over new words*. He becomes able to pronounce words from their structure alone. Suppose the word *point* to be taken. It should not be placed before the child at first, though the word in its written or printed form be known to him. The following are the steps in the process:

1. Pronouncing the word distinctly.
2. Pronouncing it slowly, bringing out the various sounds which compose the word.
3. Drilling on each sound.
4. Associating each sound with the letter or letters which represent it.

When we speak of *silent* letters, we usually mean letters which have no sound in the word, corresponding to them; but using "silent" in a somewhat different sense, we may say that our English words have but few silent letters. Those which seem to be silent, and indeed are so in the first sense of the word, are yet not silent, since they have some determining force in the word; as in *fate*—if the *e* were silent, the word would be *fat*; but it is the *e* following the consonant which determines that the *a* is long. It is in this way that structure determines pronunciation. As the child's experience broadens, he will find exceptions to these rules of structure, but structure is in most cases to be relied upon. It is evident how this work will be helpful in the child's reading.

Introductory writing also grows out of the work of the cycle. At first the sentence is written by the pupil with the form before him. In time he learns to write it without the form present.

A kind of work very properly called grammar may also be done. It is unconscious grammar work to the child, and can easily be begun in the first year. What follows will suggest the nature of it:

Take again the sentence, *The point rests*. The child may be asked how many are meant by the word *point*. Then, what would the word be which means more than one point. Let him use *points* instead of *point*, and have him notice what change must occur in the verb to correspond with the change of number in the subject. Of course, none of the technicalities of grammar should be used, but the child can be led to see number, agreement, etc. In the sentence, *It moves forward two inches*,

even the very young pupil can see that *It* means the point, and that it means one, and that it expresses the object, point, without naming it, while *point* expresses the object directly by naming it. In this way he gets the idea of the pronoun. As much of this kind of work may be done as the advancement of the pupil suggests, and as the teacher sees fit. It should never be strained. It may increase gradually in each successive year. In the fourth year, the verb may claim a large share of this phase of the work. Conjugation may begin. The verbs used should be taken from a cycle in which the subjects represent a person. For purposes of illustration, several sentences will be used from a cycle called "The Act of Sprinkling the Slate."

1. Edwin sits at his desk.
2. He stands.
3. He walks toward the blackboard.

The verbs of this cycle are well adapted for this work, because they are in the third person, present tense, and indicative mode. The third person is the most natural to the child for a long time, for he speaks of himself as of another and the present tense and indicative mode are the most familiar to him. Let him begin by uniting verb and subject, saying, *He sits*. The expression should be pronounced distinctly, even exaggerating the sound of the *s* at the end of the word. Then, *Thou sittest*; *I sit*; *We sit*; *You sit*; *They sit*. Before using the form, *thou*, the teacher should in simple manner make clear to the pupils its meaning and use.

This work should all be made as concrete as possible to the child. The next step may be this—giving the verb with the remainder of the sentence through all the persons and both numbers; as, *He sits at his desk*; *Thou sittest at thy desk*; *I sit at my desk*; and so on. A third may consist in running through all the verbs of the cycle in one person and then another; as, *He sits at his desk*; *He stands*; *He walks toward the blackboard*; etc. Then, *Thou sittest at thy desk*; *Thou standest*; etc. Then, *I sit at my desk*; *I stand*; and so on through the first person.

The next tense to be taken up would probably be the past. Time has its natural and its artificial divisions. The day, to some extent the week, the month, and the year, are natural divisions, while hours and seconds are artificial divisions. Of all these, that is definite time which has begun and ended. It would help to make the work more concrete to the pupil, if, instead of giving the past tense merely as past time, some definite past time were fixed upon; as yesterday, last week, or last month, and the conjugation given in this way—*Yesterday he sat at his desk*;

Yesterday you sat at your desk; and so on. The future tense may be treated in the same way.

In doing this work, the pupil is really conjugating, unconscious of what a grammatical feat he is performing. He does not name persons and numbers, certainly, but he is getting his ear accustomed to the endings and is becoming familiar with the forms through thinking and speaking them repeatedly. We may hope with such a training, that when he comes to technical grammar, the conjugation shall be to him a thing of meaning, and not a certain amount of print arranged in a certain way on a certain page in the book.

The most difficult work growing out of the work with the cycle is the figurative expression, or the purposed use of figurative language. It should not be attempted with the youngest pupils, and perhaps only with the more mature ones. The work in figurative language for the second year may be taken from the cycles of the first year; for the third year, from the cycles of the second, and so on. There are two sources of figurative ideas in the cycle; one is the dominant thought or theme of the cycle, and the other is any of the ideas of the sentences of the series. A dominant thought is not evident in every cycle, but the words of the sentences are a rich source of figurative ideas. "Blessed is the man who walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful." Quotations containing the appropriate word for figurative use should be selected wherever possible from the best literature, and presented to the children. This acquaints them with the best use of figurative language. A figurative idea takes its rise as follows:

1. Some feeling or idea is abstracted and generalized. (As the mental state of firmness.)
2. Some object of the external world is noticed to have an analogy to this mental state in its nature and effects. (As a stone wall.)
3. The subjective state is viewed in terms of the objective world. (He is a stone wall; Stone-wall Jackson.)

In conclusion, let us see for a moment what is the educational value of the cycle as a means in language work. It is only one of several devices for constructive language study in the grades, but perhaps it can claim some special value. We believe it can.

The effect or value of an educational means may always be reckoned from two points of view; viz., *knowledge* and *tendency*. What elementary language work adds to the child's knowledge is perhaps not so evident, but true it is that it gives

him such knowledge as is a basis for gaining other knowledge—it gives him a knowledge of good language; it brings him to the good use of a great number of words; it puts him in possession of a good vocabulary. As to tendency, the effect is threefold,—intellectual, emotional, volitional. Perhaps none are so marked as the intellectual tendencies left. Language work because of the activity peculiar to language which creates it, leaves a mental effect—a habit or swing of mental action which only language study can leave. This peculiar habit of mind, then, is one thing it leaves or should leave in the way of intellectual tendency to its student. It may be stated as the habit of using good language. Emotionally, it should leave the pupil with an *interest* in language work. The nature of the device used in study will determine any other effect left in the way of tendency. The study of an object in relation to its purpose for developing the use of language, would leave different effects from those produced by the study of language work with the isolated sentence which is to be woven into an imagined environment; and those effects left by the work with the cycle will be different from either. The idea of the cycle,—a return to itself, is an important idea to obtain, for it spreads to the realm of morals and there leaves the impression that the evil deed finds its reward in one of its own kind; that the wheel will "come full circle." Beside this, sufficient work with the cycle leaves the tendency to close, logical thinking, and accurate expression. One of its greatest values lies in its being a natural and interesting method to the child, since it employs the sentence, is oral work, satisfies his interest in action, and gives play to his faculty of picturing a series of events.

MARY SCHAFER.

WORKING FOR OTHERS.

One of the truest and most impressive sentiments ever uttered by Sir Walter Scott is, however, so appropriate, and forces itself so strongly upon my mind, that I can not repress its utterance. When that plain and homely Scotch girl, Jeanie Deans, the highest of all the characters ever conceived by that gifted author, is pleading her suit before the British queen, and showing herself therein to be ten times a queen, she utters the sentiment I refer to: "But when," says she, "the hour of trouble comes to the mind or to the body, and when the hour of death comes, that comes to high and low, then it is na what we hae dune for ourselfs, but what we nae dune for ither, that we think on maist pleasantly."—*Horace Mann*.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"The essential of method is that we allow nothing to come between the student and the object which he studies. When the student has laid a foundation by his own observation, he is ready to build second-hand facts into his edifice." DAVID STARR JORDAN.

CHAPTERS FROM THE GOSPEL OF SCIENCE.

VII. THE FAILURE OF BOOK-LEARNING.

While the reader of current literature finds an occasional paragraph or sentence which implies that the writer is disturbed in one way or another by the real or fancied "failure of science," he comes across tens and scores of elaborate articles setting forth in vigorous terms some aspect of the failure of primary and secondary education. We may cite at random the pages of *The Nation*, *The Dial*, and the *Atlantic Monthly*, *passim*; and the voluminous literature of the "kick" of university professors of English, from Indiana to Harvard, against the want of preparation of applicants for admission. Some years ago we expressed an opinion based upon considerable experience, which we have since seen no reason to alter, that the majority of pupils enter the secondary schools with three dominant ideas in regard to school work:

1. Facts and principles are to be learned from books.

2. They are to be learned by a process of memorizing.

3. The immediate object of such memorizing is to enable the pupil to satisfy the teacher in recitation, and thus to obtain good credits upon the record.

We leave it to the high school teachers of the country to judge whether such experience⁶ is unusual, whether it is not the rule that the geographical facts memorized in the grades have evaporated to an almost imperceptible residue; whether there is any surer way of precipitating a false culture than to give a class a simple problem in the application of arithmetic to physics; whether the average pupil can observe a simple optical phenomenon and write a clear description of it in good English; and in what subjects the pupils are most incompetent.

Relating this experience to an eminent university professor, we lamented the fact that we had not been at the bottom. "There you have the advantage of me," was his reply. "By the

time they get to the university, the bottom has dropped out."

Again, between the students who enter the college or normal school from the town and city high schools, and those who enter from the rural districts, this distinction is evident. Those who have had the best school advantages—the best as ordinarily estimated—have more technical knowledge and are able to learn and recite a lesson from a book with the greater facility; while those whose education has been derived more from non-scholastic sources, have superior mental grasp and reasoning power. We are indebted to a bright girl, who had come fresh from a good city high school to the normal school, for the following mental photograph. In answer to our inquiry as to how she was enjoying herself, she replied: "I am very homesick and time hangs heavily on my hands. The teachers here don't give me anything to learn. If they would give me good long lessons, I could enjoy learning them; but they say nothing but 'think, think, think,' and I *can't* think."

Many a teacher has been confronted by the spectre which Dr. Henderson raised to his horror and our edification:⁷ "I had each boy in a certain class write out his age, the number of years he had been in school, how old he was when he started, and whether the school had been public or private. There were some surprises. There were some boys who had been to school for eleven years, who had been through all the dismal grind of the primary, secondary and grammar schools, and who were still bright and attractive. But the result of the whole scrutiny warranted the remarkable generalization, that the brightness and desirability of the boys as pupils was *inversely* proportional to the number of years they had been in school. In a word, I could do no more with the boys who had been least in school. Do you comprehend the full significance of this statement? I have never been able to forget it. It stands before me a silent spectre. I cry aloud: Woe unto us if we are sending our children to school to their hurt!"

"The most disquieting fact that I know of in American education," says Professor W. T. Sedgwick,⁸ "is the unsatisfactory result of our secondary education. This becomes apparent every autumn when the new classes enter our higher institutions. The incapacity, amounting almost to paralysis, and the intellectual rawness, which the average freshman exhibits, means either that the American boy of eighteen is exceptionally

⁶ *Public Schools Monthly*, Vol. XXIX, p. 261, Aug. '09.
⁷ *Education Review*, Vol. V, p. 255.

immature, or else that he is untrained. * * * Training implies the power of *doing*, the power of definite, orderly reaction to stimuli; but the reactions of most American freshmen are painfully indefinite and disorderly. * * * So long as we had little science on the higher rounds of the ladder, the defects which are now so conspicuous, were unobserved by educators. The plain people saw that education above the three R's meant only what they called, and rightly called, 'book learning.' But they were assured by those in authority, that the strange, and often grotesque results which they witnessed, really meant something very wonderful, and so they submitted. To-day all this is changed. Authority in education is losing its force, and the cry is: 'By their fruits ye shall know them.' "

The failure of primary and secondary education, to whatever extent it may be a failure, is doubtless due to a multiplicity of causes. Political influence in educational matters and the prevailing corruption in politics; those twin monstrosities of American egotism, the delusion that one man is as good as another and a little better, that *anyone* is fit for *anything*, and the delusion that the school system of *our* country, *our* state, *our* town is "the best in the world;" politic, incompetent and old foggy superintendents; indifferent and uneducated teachers, and wages too small to secure better ones; the Procrustes bed of a State examination system, which has slain its thousands and tens of thousands; and at the root of all, a public indifferent and unintelligent upon school matters:—under such conditions as these, it is remarkable that educational failure is not worse. Yet, there is another cause more fundamental than any of these, and partially including them all—or, at least, this paper is an attempt to establish such an hypothesis—a fruitful cause of all our woe is the too exclusive use of book-learning. It is certainly true that our educational failure, whatever else it may be, is a failure of book-learning, now made evident by contrast with something that is not book-learning. The traditional and common methods seem to be a survival from the age when letters and literature were new, when men were dazzled by the new light and dazed by the new power they had called up. All great illuminants cast deep shadows; all great gain entails some compensating loss. The housewife, in her new house supplied with hot and cold water, drainage, gas, steam heat, electric light and telephone, often finds herself the victim of "all the modern inconveniences." An eminent man has characterized certain disabilities of Christians as "the shadow of Christianity." So some of the worst things in our school-rooms

to-day are the shadows of literacy and the art of printing. In the Middle Ages the child incurred very little danger of too much book-learning. If he went to school at all, he got from books only what he could not get in any other way. His education from books bore a very much smaller proportion to his whole education than it does to-day. It was not then a disastrous blunder to regard school-education as synonymous with book-education. Then, men depended mostly upon experience for education; now we have reached the other extreme, and the idea prevails that everything can be and should be learned from books; that it is sufficient for children to read *about* things instead of getting acquainted with the things themselves. They are expected to learn even geography, "the physical environment of man," from a book, when every blessed one of them is surrounded by, and immersed in, as much physical environment as the man who wrote the book. Parents are prone to preach to children about the value of experience, how the practical lessons of life can be learned only by experience; yet they make great efforts and sacrifices to send their children to schools where next to nothing is intentionally taught by experience. We are more or less exercised about the curse of illiteracy: is it not possible that the curse of literacy may be worth our attention? that the prevalent custom of teaching children *wholly* through literature is neither good psychology, good pedagogy, nor good common-sense, but a violation of the laws of child nature little short of criminal? A discussion of these questions will be undertaken in another article.

THE SIXTH INTERNATIONAL GEOGRAPHICAL CONGRESS.

The Sixth International Geographical Congress, held at London from July 26 to August 3, 1895, was the most notable meeting of the kind that ever occurred. The members in attendance numbered more than 1,500, of whom 1,100 were English and the remainder were foreign. Nearly every country on the globe was represented, the United States by forty members. The arrangements were in charge of the Royal Geographical Society, whose Honorary President, the Duke of York, gave the address of welcome. Besides the general meetings, sectional meetings were held for the discussion of geographical education, photographic surveying, polar exploration, physical geography, geodesy, oceanography, geographical orthography and definitions, cartography, limnology, speleology and mountain structure, and the morphology of the earth. The papers were in

English, French or German, and the report of proceedings fills a volume of 800 large octavo pages. THE INLAND EDUCATOR will give from time to time such extracts from the report as seem to be of special value to its readers. The exposition of the organization and aims of geographic teaching in France, begun in this number, will be interesting, not only for the helps toward good teaching which it contains, but, as a pattern with which we may compare ourselves. The comparison will not be altogether to our discredit. While it reveals enough to excite our emulation, it shows that American schools are, in some respects, in advance of one of the best systems in Europe. The point so strongly insisted upon by Professor Levasseur, that *a child is to be shown things in order to fasten upon his memory the definitions of them* may excite a smile, and suggest that the teachers of France have not yet escaped from the thrall of mediæval scholasticism in which they won such brilliant renown. American teachers have found a better reason for showing a child a thing than to help him to retain the name of it. But the picture of the venerable professor of the College of France holding the attention of such an assemblage of royal, noble and learned dignitaries of science, gathered from the four quarters of the globe, with a discussion of the minute details of teaching geography to children, must give us pause. It may give the humblest primary teacher a new sense of the dignity of her work, and help us to see that devotion to a noble cause may make all men equal.

GEOGRAPHY IN THE SCHOOLS OF FRANCE.

Abstract of a Paper read before the Sixth International Geographical Congress by E. LEVASSEUR, Professor in the College of France. Translated by Chas. R. Dryer.

I. THE PRIMARY SCHOOL.

Geography ought necessarily to have a place in every program of primary instruction, for it is important that every person should have some knowledge of that subject, and the great majority of people in this country do not receive other instruction than that of the primary school. I believe that after the three fundamental branches, reading, writing and arithmetic, history and geography are the most important subjects in that instruction. I content myself with demanding equal places for the two.

Two methods proposed for beginning instruction in geography. The geography taught in the primary school ought to be different from that given to pupils who have learned to read and write. The teaching should be very simple, clear, methodical and demonstrative. Two methods present themselves for introducing beginners to the first no-

tions: the *home*, (*commune*) or particular method, and the *earth* or general method. I very much prefer the former, but I believe it would be a mistake to adhere exclusively or too long to one or the other. The first programs of secondary teaching fell into this error when they gave directions not only to begin with the township (*commune*) where the school is situated, but to continue with the adjoining townships and to extend successively one after another to the whole of France. Such a series is not a logical order: it can only confuse the memory of the pupils, because the particulars do not attach themselves to any general plan. When it is a question of places which the child has not seen, it matters little whether one speaks to him of a country fifty miles away or five hundred.

Plan of the class, study of the township and definitions. I have not ceased for thirty years to advise that at the beginning be placed the study of the township with which the child is familiar, especially if it be a rural township, and to begin, before the township, with the class and the school. I have given an example of that method in a series of little county (*departementales*) geographies of which I wrote the first, and the others were prepared by different authors upon the same plan and under my direction. It is easy to publish a county geography. It is not easy to find an editor who will undertake the publication of a township geography, unless it includes a large city, because the sale of the book would be so limited. It is necessary, then, that such teaching be entrusted almost exclusively to the good will and judgment of the teacher, giving him, nevertheless, certain directions.

Why use a description of the school? Solely to teach the novice how to represent a certain place upon paper or upon the blackboard; to make him know right, left, direction, and to give him the first idea of orientation. A child well drilled in that first notion will soon learn to read a map.

Why the township? To attain the same end, and to give the pupil, by the aid of experience, the meaning of essential definitions. Upon the border of a brook, he can be made to comprehend, without difficulty, the course of a river, the right bank, the left bank and the basin; upon a hill he sees with his own eyes what a slope is, a crest, a chain; the sight of things holds his attention and engraves upon his memory the definition, which, by itself, would be to him dry and perhaps unintelligible. Undoubtedly sight alone is not sufficient; there are names and definitions which the child must learn by heart; but, as far as possible, it is necessary to show the thing to

help him to retain the name; thus, taken in by the aid of the eyes, definitions are more firmly and rationally fixed in the memory. In the *Elementary atlas* I have used this method in the attempt to unite geographical definitions with some general notions of the earth. Not being able to show the children the objects from nature (it belongs to the teacher only to do this), I have bound myself not to give any definition without accompanying the text with a picture intended to strike the eye, and I have counseled the teacher to supplement the picture with the reality. It is not every township that possesses such a water course, and such relief of the earth as the teacher can cite in aid of the pictures. If not, he can make them with sand in a large box. I have often repeated that the least phenomena of nature furnish those opportunities which the intelligent teacher ought to know how to seize; for example, if a storm suddenly arises the school yard is furrowed by a water course, which forms tributaries, islands, deltas. It is by familiar examples of this kind, by pictures and by frequent questions that the first beginnings should be made.

Use of the globe for first notions of the Earth. One of the consequences of this method is the use of the globe for the first lessons upon the Earth. A child of eight years is not capable of understanding a planisphere, of transforming mentally two circles or a quadrilateral drawn upon a plane surface into a sphere; many adults have the same trouble in perceiving the true form from an inspection of such a deformed image. With the terrestrial globe in hand, the teacher ought to say: "Here is the Earth; it is a ball. Here is the place which your country occupies." Then, with his finger upon the globe, he gives the first lesson upon the ocean and the continents. When, after a little, the eye of the child is familiarized with the rotundity of the Earth, one can explain to him briefly how to reproduce the lines upon paper, and put a map before his eyes.

When ought the globe to be employed? Opinions differ. Mine is that the teacher will do this more effectually immediately after having taught his pupils the definitions by a study of the township. This double study, the township and the globe, is sufficient for a first course of geographic teaching, which should have for its only object, to open the minds of the child to geographic notions: *to make him see in order to make him understand.*

The middle course. With the intermediate course begins the study of geography properly so called. It ought to bear especially upon our own country; every child needs to know his country, and

to learn to love it. To that end the teacher in a French school should review the definitions, always taking care to accompany them with proper examples to make them understood; in some lessons he should explain what the Earth is, what Europe is upon the Earth; just enough to make it plain what France is in Europe; then he should enter upon the study of France, devoting the greater part of his time to physical geography, and ending with the counties (*departments*) and a simple enumeration of the colonial possessions. Each course should be, in some sort, a development of the preceding course, with review of matter already learned, and the addition of new matter.

Higher course. The higher course includes, beyond a rapid review of definitions, the elementary ideas of cosmography, a return to the geography of France with some new details, then a physical and political study of Europe, a very brief study of other parts of the world with a little more development for certain very important countries, as the United States and the colonial possessions of France.

Official program of primary schools. The plan of studies prescribed by the order of January 18, 1887, for the primary schools of France, corresponds nearly to this division of matter. It comprises an infant section for children of five to seven years: elementary (from seven to nine years), intermediate (from nine to eleven years), higher (from eleven to thirteen years).

Infant section. Familiar talks and little preparatory exercises, serving always to arouse the spirit of observation in the children by making them simply notice the more common phenomena, the principal features of the land.

Elementary course. Continuation and development of the exercises of the first stage. The cardinal points not learned by heart, but found upon the earth, in the yard, in walks, from the position of the sun.

Exercises of observation: the seasons, the principle atmospheric phenomena, the horizon, the features of the land, etc.

Explanation of geographic terms (mountains, rivers, seas, gulfs, isthmuses, straits, etc.) always by objects seen by the pupil, and proceeding by analogy.

Preparation for the study of geography by the intuitive [?] and descriptive method:

1st. Local geography (the house, street, hamlet, township (*commune*), district (*canton*), etc.

2d. General geography (the earth, its form, extent, grand divisions, their subdivisions).

The idea of cartographic representation: elements of reading of charts and maps.

Terrestrial globe, continents and oceans.

Conversations upon the native place.

Intermediate course.—Geography of France and her colonies.

Physical geography.

Political geography, with a more thorough study of the district, the county, the region.

Exercises in map-drawing upon the blackboard and upon paper without copying.

Higher course. Review and development of the geography of France. Physical and political geography of Europe.

A more brief geography of other parts of the world.

The French colonies. Exercises in map-drawing from memory.

[To be Continued.]

THE COMING MUSIC TEACHER FOR PUBLIC SCHOOLS.

Much has been said of the importance of music in the public schools. However, there is more to be done in promoting the cause, not only in widening the good effects of its influence, but in raising the standard of music, thereby teaching the people to have a keener appreciation of this much-abused divine art.

Music is, certainly, one of the essential studies of life. We are made to realize, more and more, the salutary effect it produces in the development and cultivation of the mind, the saving of souls, and consequently, the uplifting of humanity. It represents nature, in that it illustrates the human heart in all its phases:—its joys and sorrows, its probabilities and possibilities. The children are made happier by singing songs of glee. Their attention is attracted, and simultaneously they respond to the echoes in their own hearts, by language and movements so expressive of their feelings. To the little ones, especially, it is nature study. Everything, to them, has a musical effect: the singing birds, whistling wind, the bells, the whistles, the rustle of dry leaves, even the echo of their own footsteps and numerous other sounds, which, to us in our practical lives, have lost their musical effect. Thus, as the little untrained minds are so susceptible to sound and rhythm, it is our object to train them early in the practical application of music: to the edification of life here and the possibilities hereafter.

There is decided evidence of the fact that music is an important assistance in the upbuilding of moral character. It begins with the children in the primary grades. To them it is a source of entertainment. They enjoy the melody, without any knowledge of the science of music or the truth it contains; but imagination is awakened,

thought is strengthened, hearing becomes more accurate by the cultivation of the ear to harmonious sounds; all of which, Ziller says, "tend to accomplish the purpose of the will in action." The music teacher must cultivate the power, or tact, to interest all pupils. All are not talented, and among those who are we find different types. So the first plan must be to awaken an interest, in order that a permanent impression may be made on all minds. The pupils need a stimulus, and it remains with the music teacher to employ means to create it, thereby insuring interest.

The study of child-nature in its relation to music, opens up a broad field for thought and work. As I have said, all children manifest a pleasure in melodious sounds, but not all enjoy the study of music. They enjoy the effect, but do not care to labor to ascertain the cause. Consequently, it becomes the instructor's duty to teach facts in a manner to attract the pupils' attention; they should be presented simply, though systematically, so as not to confuse the child. When the child becomes confused, interest relaxes; and that is the point to be avoided. We should make it an object of special study in the use of methods to create continued interest. In McMurry's *General Method* he quotes from Plato: "The purpose of education is to give to the body and soul all the beauty and perfection of which they are capable." Is not music one of the aids in bringing out the beauty and perfection of the soul? Hence, the duties of the music teacher to help establish the desired results are many.

First, he should be a musician. The word musician implies much. It means everlasting labor and study; it means one who understands the art thoroughly, yet who employs every means within his power to increase his knowledge of the art and to extend its influence to others.

The teacher should have a thorough knowledge of harmony, composition and song. And would it not be well to be able to teach instrumental music as well as vocal? The pupils should be given all the advantages they desire. There are talented pupils who are financially unable to take instrumental lessons, and to whom it would open up a broader field of knowledge if the proper advantages were given them. It has been my experience to observe very pleasing results in organizing a high school orchestra and using it for chorus accompaniment. It is not only a delightful change from the other school work, but it is invigorating. It teaches correct intonation; develops the power of close listening, and the rare faculty of being able to accompany properly. Music in its entirety, is certainly included in the list headed Education, whose theme is Knowledge. One can

see better results issuing from the study of both instrumental and vocal music than from vocal alone. The instructor should make music more than a recreation study. It should be taught for its science and art, in the full acceptance of the meaning. Pupils, when old enough to grasp ideas, could have a more definite perception of the true meaning of harmony, if it were explained and illustrated how musical tones differ in pitch and quality and yet agree with each other. Just as in life we may not all have the same opinion, yet different ideas may make one harmonious whole. Advanced pupils have asked this question: Are there stated rules for melody? I quote "that it is impossible to establish definite laws for the mechanical invention of melody, because it is the outcome of various natural principles inspired by the emotional nature and perceived by instinct, rather than reason." However, there are rules with which the pupils ought to be made acquainted, serving as a guide in their studies and for the critic in his judgment. It is an infallible mark of talent to be able to conceive good and striking melodies. In the study of the lives of the great composers, especially Bach and Beethoven, we learn how they labored to improve their melodies and form. So in any work of art it becomes art by means of the labor for its perfection. Just as "common language expresses common thought," so in music one must be well educated to give it proper expression; and that means to give it thorough study in all points. The instructor should be able to teach the pupils the cause and effect of music and its relation to the inner workings of the emotional spirit. The history of music from its remotest period—the lives and characteristics of the composers—is suggestive of the knowledge necessary to keep in harmony with the progressive stride now so manifest in all things. It should be the aim of every music teacher to lift music to so high a standard in public schools that it may be proof of the fact that it not only develops moral character, but that it may lay the foundation for a grand outcome in music in all its branches and as an incentive to true patriotism. Thus, it behooves the teacher to be properly equipped for the work of the future, and to keep in touch with the times; and not only to be well qualified to the proper extent, but to be morally prepared to live as one should who has the responsibility of training mind and voice for the betterment of future living.

The coming music teacher has much to strive for. The ideal can not be too high. If music is to be a necessity in public school work, the instructor is an important and responsible factor in establishing that condition. In school singing

there is a tendency to strain, or overtone the voice, beyond the natural register. Parents and teachers should know how destructive this is to the proper maturity of the voice. It is a fault that only a competent teacher can remedy. So much depends upon the teacher's knowledge of the underlying principles of the art; of his power to interest; of his ability to instruct, and his sympathetic response to all natures, that it is almost necessary to have a special paper on requirements, and demand that all music teachers engaged in public school work now and in the future, should be able to fulfill them. The requirements are many and varied, but should be superlatively met to gain mastery over prejudice, which, unfortunately, is so prevalent. If music is to become an undisputed necessity, it must be by virtue of the instructor's proficiency and thorough application to the study not only of the art itself, but to all things that produce culture and gratifying results.

J. E. MACK,
GREENFIELD, IND. Supervisor of Music.

METHOD IN ARITHMETIC.—XIII.

TYPICAL PLANS—PERCENTAGE.

Teachers question whether the first lesson in a new topic shall be presented from the book or without it.

The books usually introduce each subject with a series of definitions and rules, which pupils have great difficulty to understand. These become a hindrance unless by a preliminary lesson they are constructed. Then they are largely unnecessary.

The following plan presupposes a teacher who wishes to introduce the topic without the book and to unfold its definitions as necessary inferences are formulated. It is for the first lesson in percentage.

As usual the teacher begins his study with a query concerning his topics.

I. What is my subject-matter, the compass of this lesson?

1. In general, it is the meaning of percentage and of the terms used in its processes.
2. In particular, it is
 - a. The rate per cent. is the number of hundredths used as the multiplier and expressed by the per cent. sign.
 - b. The base is the number used as multiplicand, of which so many hundredths are taken.
 - c. The percentage is the product obtained by the process.
 - d. Percentage is the process of taking so many hundredths of a number.

- II. What ends have I in view?
1. In general, to increase my pupils' knowledge of number.
 2. In particular, to help them to a mastery of this new relation, or new naming of an old relation; to arouse as much pleasurable emotion as the conditions will allow; and to increase the volitional power by exercising it upon this subject-matter.
- III. What are the movements which I must expect in this process.
1. Thinking the individual rate.
 - a. Rethinking the idea and name for some number of hundredths expressed both as common and decimal fractions.
 - b. Thinking the new form of expression for it and its new name as rate per cent.
 2. Thinking the individual base.
 - a. The number so used as multiplicand.
 - b. Its new name as base.
 3. Thinking the individual percentage.
 - a. The result obtained as product.
 - b. Its new name as *the percentage*.
 4. Thinking the individual percentage.
 - a. The process of multiplying a number by hundredths is percentage. Or, percentage is the process of finding so many hundredths of some number.
 5. Thinking the general in any of the above. In all the child is led to generalize, and thus form his definitions and make his rules.
- IV. What ground has the child for such a process? What is nearest related known?
1. He must know multiplication as a process. Also its terms, their names and meanings.
 2. He must know common and decimal fractions and their forms.
 3. He must know that changing the form does not change the value, also that changing the name does not change the thing.
- V. What means are best adapted to secure the ends sought?
1. Some assignment, to give them something to do in the line of the new matter.
 - a. Some problems in which they are to find so many hundredths of numbers, using both common and deci-

mal fractions. This will cause them to have in mind the process which they are to re-name and whose elements they are to re name—to take the first steps mentioned above.

- b. They may be asked to note carefully the numbers used and in what relation, the process, and the results.

If pupils have been rightly trained, they will expect some new point is involved and will be thinking for it.

2. In recitation.
 - a. Hear reports from pupils about the work done.
To fix the basis of the work in the class and to guide the teacher in his leadership.
 - b. Place upon the board a new problem and ask for its solution. This brings the class into unity in thinking and uses the results of the previous study.
 - c. Call attention to the multiplier as to its form. Show that it may be written with the per cent. sign, and is called the rate per cent.
 - d. Call attention to the multiplicand and give the name base.
 - e. Examine the product and give its name, the percentage.
 - f. Question closely until the connection is fixed between the terms in multiplication and these new terms.
 - g. Repeat those devices in many problems. Then call attention to the process and the kind of multiplier and state that such a process is percentage.
 - h. Require a statement of what percentage is, until every pupil shows a grasp of the new truth.

Skillful management of the devices and use of questions will lead to the generalizations desired. Pupils will readily seek for these broader truths and may reach them sooner than the teacher expects.

Be sure that the work is done in a logical way. The immediate knowledge of percentage is not the highest end, but the effect produced as preparing for further mastery of the number world.

SAMUEL E. HARWOOD.

CARBONDALE, ILL.

I find the great thing in this world is not so much where we stand, as in what direction we are moving.

PRIMARY WORK.

CONDUCTED BY SARAH E. TARNEY-CAMPBELL, Supervisor of the Anderson Schools

THREE PURPOSES OF LANGUAGE WORK.

In considering this subject, it is worth while to remember that our conventional language is largely, if not wholly, a matter of imitation. There is no way by which the child can come to call a table, house, father, mother, horse, lamp, by the names we give to them, except to hear these objects called by these names. So the varying degrees of ability in the use of language are largely due to the varying degrees of excellence of the language heard.

There are, at least, three ways in which language, in so far as it is a matter of imitation, may be strengthened. These are: First, the vocabulary; second, style; third, correct grammatical forms. It is the purpose of this paper to state some of the common means at the hand of every teacher for helping to make strong these phases of the language work.

Vocabulary. It is very desirable that the pupil should have at hand the exact word or expression to stand for just the idea he wishes to express. To reach this, the vocabulary of the teacher should be full and accurate. As far as the teacher's vocabulary is concerned, he should not put himself on the pupil's level; this is fatal to this end in the language work. While the teacher's language should, of course, be understood by his pupils, it can be understood and yet contain words and expressions that are new to him.

No little child would ever learn to talk if he only heard words used which were not new to him. He listens to parents and older brothers and sisters who are constantly using these new words, and when he wishes to tell a similar thing he finds he has the word or words to stand for it. So the teacher should use words and expressions that are new, for only in this way will the little child who cannot read get these new words.

This was most clearly illustrated by a teacher who always talked to her primary children with nearly the same vocabulary that she used with her equals. One morning a little girl went to her desk and immediately raised her hand to tell the teacher, "My sponge is gone." "As soon as it is convenient for me I will help you look for it," the teacher replied, then turning to me she remarked that the word, *convenient*, was a new one to that child. The child waited an instant and said again, "My sponge is gone." "Yes," said the teacher,

"I know it is. I am busy just now, but as soon as it is convenient for me I will help you look for it." The child sat down, looked around, and then came up to the teacher's desk and repeated, "But I said my sponge was gone." The teacher replied much as she did at first. When the teacher had finished her work she went back to the little girl and said, "I have finished my work now, and it is convenient for me to help you find your sponge." This is but one part of the story. The rest of it is this: in less than two weeks that child used the word *convenient* of her own accord. Of course, she may have heard the word elsewhere, but she evidently did not know it at the time of the incident given, and she did use it soon after. This is only an illustration to make clear this notion, that teachers should use the best possible language with the children, and not let the speaking vocabulary degenerate into a meager, child's vocabulary.

The child's vocabulary is increased by the teacher's reading and telling stories, provided she does use occasional words and expressions that are new to the child. And while, if there are too many new words the pupil will lose interest, this interest will be equally good if there are frequent new words used. It is exactly right that in selecting the story to be read the teacher should most carefully consider the thought itself, and choose one that is uplifting. But that done, she should then consider the language or expression, by means of which the child is to grasp it.

It may be remarked here that when children are reproducing stories, they should be encouraged to tell the story as well as the teacher told or read it to them. If they can remember exact words and expressions, they should be encouraged to use them. This is directly opposed to the direction frequently given a class, "Now, don't try to remember the words of the book, but just give it in your own language."

Style. One general aim concerning the oral and written language, the incidental and distinct work, is this,—that the pupils should all the time be acquiring an added facility in talking clearly, concisely, smoothly and forcibly. During the first year or two, the main thing considered is that the pupil talk clearly, and when the child can do this the other qualities will more easily follow. But the first is clearness.

The means by which this may be gained are about as suggested for increasing the child's vocabulary. One of the great aids is the style of the teacher's own English in ordinary conversation and in the telling of stories. The reading of well-written stories is also a great help toward this same end, and this may occasionally be supple-

mented by oral or written reproductions. As was said in regard to the vocabulary, the pupils should be encouraged to use the qualities used by the author in their own work.

Correct Grammatical Forms. The third point suggested, is in regard to the use of correct grammatical forms. Many children come to us with a great many incorrect forms of verbs and pronouns, and some other parts of speech. It should be the constant problem of the teacher, how to get the child to correct these errors, and to form the habit of correct speech.

In the first place, it may be said that the teacher's own language should be entirely free from such mistakes. It is a pretty difficult matter to notice incorrect forms if we are given to using them ourselves. The incidental conversations of the child should be watched, and at every place (where it is clear the mistake had best be corrected at the time) the teacher should call attention to the correct form. She should not only call attention to it, but she should frequently insist on the child's telling the thing again, and telling it correctly.

There are times when to stop the child to correct his language is not a wise thing to do. But this, like every other suggestion, must be carried out with the good sense of the teacher. However, it is very doubtful if the study of incorrect sentences and cautions ever do very much to lead the pupil to form correct habits. It is usually, by having his attention called to his own mistakes and then persistently correcting these, that the child finally comes to have correct English.

These three things, suggested as part of the ends to be reached through the language work, are ends to be sought in the first grade, the second, and so on through all the grades and the high school. At different stages of the work there may be other aims, but these should characterize all the work, oral and written, from one end of the course to the other.

WHAT TO TEACH.

In deciding what to do with children on any particular subject of study, it is frequently urged that certain things should be done because the child is able to do that kind of work. It is assumed that anything which he has the ability to accomplish is the thing which he should do at that time. The boy may be able to find out how much $39\frac{1}{2}$ pounds of butter would cost at $23\frac{1}{2}$ cents per pound, and such problems as these are frequently given in fractions because the child can do them, and also because the mental discipline derived from this kind of work is said to be very valuable.

Because a child can do a thing is not a sufficient reason for putting that kind of work in the grades at any particular period. To be sure, if mere skill or ability to manipulate fractions, to learn combinations, and to become keen in mastering any given relations—if this were the only ground for assigning any given kind of work—anything, then, that would reach this end should be admitted into the course. This notion of education will not do for the child what education at this particular stage of our civilization should do for him.

There is something besides the child's ability to do a thing, that should determine whether or not he should be asked to do it. At each stage in the course the work should be looked at from this standpoint:—If the child were to leave school at this period, has he gotten the thing that will be best for him when he goes out into the world? Has he acquired a large degree of mental acumen and skill, and besides this, a knowledge of some of the actual features in this world outside of school? The time is past when schools can do work without taking into consideration the fact that the child with which they are working must form an integral part of society. There are manifold relations in society, of so great a variety, indeed, that it is impossible, during the school life of the child, to make him, in even a small degree, familiar with this outside world: and I do not know that it is necessary that the school should undertake to carry this out to any great extent. But, when we consider the fact that very few of our pupils ever enter the high school, and comparatively few ever reach the seventh and eighth grades, it does seem that the school should in some way try to give the child, when he does attend, the thing which will make him most able to take care of himself when he is out.

It is a fact that the school has held itself off and has tried to determine what it should do largely on the ground of the child's own mental ability only. But a change is gradually coming about. In one of the most prominent training schools of our country, subjects in arithmetic, for instance, are taught largely as the business world actually does the work. When practice students are getting ready to teach plastering, they are sent to a plasterer to find out how he estimates on plain walls, openings, and corners. When papering is considered a paper hanger is consulted, and when interest is studied, the bankers are asked their mode of computing interest. Doubtless as far as 'mental discipline' is concerned, as much could be gained by taking the subject according to a certain text or the teacher's own ideas. But as far as a knowledge of actual facts makes the man or woman a little more of a

master of this complex world in which he lives, then a knowledge of these facts plus the discipline, doubly arm him for the actual contact with this world.

THE NUMBER OF PUPILS IN A CLASS.

The number of pupils in a class, and so the number of classes, will depend upon the age and ability of the pupils and the power of the teacher. When children first enter school a recitation period of ten minutes is long enough. They have not grown to the power of continued attention. Such classes may be taught in small groups, since the period is short, and there is time for more recitations. As the pupils grow in power of at-

tention, and the teacher grows in her power to hold the attention of many pupils at once, the divisions may be larger and the periods longer, until the school (in graded town and city system) is divided into two equal divisions, having lesson periods of fifteen or twenty minutes each. With such a division of pupils, many exercises, as music, drawing, writing, language, and general lesson, will belong to the school as a whole, division being made for reading and number only. This arrangement can easily be made in schools of one grade. It allows all pupils some opportunity for an individual preparation of lessons, and at the same time permits of the instruction of the entire class together whenever new points are to be presented.—*Er.*

TWO PROGRAMS FOR PATRIOTIC DAY.*

*I do love
My country's good, with a respect more tender,
More holy, and profound, than my own life.*

—SHAKESPEARE.

PROGRAM I.

PREPARED BY E. L. HENDRICKS, SUPERINTENDENT OF
JOHNSON COUNTY.

INTRODUCTION.

In the preparation of this program two points have been kept in mind:

(1) However varied in detail, a program should have some underlying theme, and so possess unity.

(2) Dignity of thought and language is essential, and primary pupils need not be "talked down to."

In the plan of the program three divisions suggested themselves,

- (a) Reasons for Patriotism.
- (b) Cultivation of Patriotism.
- (c) Results of Patriotism.

I.—SONG—"America."

My native country, thee,
Land of the noble, free,

*It is suggested that as Patriotic Day comes on Saturday, Friday, November 6th, be observed instead.—EDS.

Thy name I love:
I love thy rocks and rills,
Thy woods and templed hills:
My heart with rapture thrills
Like that above.

II. QUIZ BY TEACHER.

[Let pupils learn of authors quoted.]

Teacher—What is Patriotism?

First Pupil—

Patriotism is the love of one's country.—T. J. MORGAN.

Second Pupil—

Patriotism is ever united with humanity and compassion.

—JOHN HANCOCK.

Third Pupil—

To love one's country has ever been considered honorable; and under the influence of this noble passion every social virtue is cultivated.

—JONATHAN MASON.

Fourth Pupil—

Patriotism is great only as an en-

lightened principle: and it becomes an enlightened principle only by the advancement of social and moral cultivation.—GILES.

Fifth Pupil—

There's a magical tie to the land of
our home,
Which the heart cannot break, though the
footsteps may roam;
Ask of any the spot they like best on earth,
And they'll answer with pride, "The land of
my birth."
—ELIZA COOK.

*Teacher—*What special reason have Americans for loving America?

Sixth Pupil—

Because of its natural beauty and
possibilities.
"Our country, 'tis a glorious land,
With broad arms stretched from shore to
shore;
The proud Pacific chafes her strand,
She hears the dark Atlantic's roar;
And, nurtured on her ample breast,
How many a goodly prospect lies
In Nature's wildest grandeur drest,
Enameled with her loveliest dyes!"

Seventh Pupil—

No words can depict, no pen can
describe, the wonderful variety, rich-
ness, grandeur, and beauty which the
Almighty has stamped upon our
favored land.—JOHN SHERMAN.

Eighth Pupil—

Americans can be proud that our
country began in honor. Coloniza-
tion in America was founded on re-
ligious liberty and social equality.
Nothing less than the firmest convic-
tion could have over come the diffi-
culties of colonial life. We can be
glad that our forefathers sought
neither gold nor idleness but, "A
faith's pure shrine."

Ninth Pupil—

No lack was in thy primal stock,
No weakling founders builded here:
Thine were the men of Plymouth Rock,
The Huguenot and Cavalier.

—WHITTIER.

Tenth Pupil—

Declamation—"Landing of the Pil-
grims." By MRS. HEMANS.

Eleventh Pupil—

Americans can love America for
the sake of Revolutionary heroes.
"It cannot be that men who are the seed
Of Washington should miss fame's true
applause."

Twelfth Pupil—

We love our country because it is a
union; and as such, every part of it
enjoys the protection and advantages
of the rest. The great Civil War
was the test of this unity, and through
the patriotic death of many men the
union was saved.

Thirteenth Pupil—

"From the hour when those patriots fear-
lessly flung
That banner of starlight abroad,
Ever true to themselves, to that motto
they clung,
As they clung to the promise of God:
By the bayonet traced at the midnight of
war,
On the fields where our glory was won;
Oh! perish the heart or the hand that
would mar
Our motto of 'Many in One.'"

III.—SONG—"Columbia the Gem of the
Ocean."

IV.—ESSAY—"The American Flag."

[Origin, history, etc.]

V.—FLAG EXERCISE.—(Each flag, having
attached a letter of the word Amer-
ica, should be fastened to the wall.
The speaker of each verse should
turn his letter so that the exercise
will spell "America.")

First Pupil—

Listen to a song of seven,—
Magic number,—emblem sweet:
Seven starry flags shall tell you
What they mean and why they meet.
This one tells of Armies sleeping
In the sunlight and the dew,—
Men who died for freedom, union,
Giving them to me and you.

[Places letter A.]

Second Pupil—

This one asks us for Memorials
To the heroes lost or known

Granite shaft and flowery chaplet,
Heartfelt thanks to everyone.

Third Pupil—

This one tells us of our emblem,
Bird of strength and keenest sight,
Teaching us the *Eagle's* boldness,
And his proud and lofty flight.

Fourth Pupil—

There's a *Race* that owes its freedom
To this flag. Then let it wave
Till the truth, "All men are brothers,"
Sends release to every slave.

Fifth Pupil—

Of the *Immigrant* this tells us;
We are glad for those who come,
Willing to be loyal subjects
And to make our land their home.

Sixth Pupil—

All the busy seats of *Commerce*
With our country's praises ring,
For her mountains, fields and orchards,
And the treasures that they bring.

Seventh Pupil—

Now the *Arts* of peace shall flourish,
Says this flag; on every hand,
Learning, culture and religion,—
These shall keep our native land.

In Concert—

In our armies, passed away,
In their memories, kept to-day,
In the warnings, plainly told,
By our ensign, eagle bold,
In the race we freed at home;
In receiving those, who come,
In our commerce, swift increase;
In the arts assured through peace;
 You can see *America*
And around her and above,
Is the flag her children love.

VI.—SONG.

VII.—The teacher can at this time very appropriately gather up the points touched, and enlarge and emphasize as she desires. An excellent opportunity to show that patriotism is not necessarily a thing of the past is here given:

The fathers sleep but men remain
As wise, as true, as brave as they;
Why count the loss and not the gain?—
The best is that we have to-day.

—WHITTIER.

The teacher may call for responses to her words on the privileges and duties of the citizen to-day. This may be made more interesting by having boys respond to privileges, and girls to duties.

Response 1.—(Boy)—

The heritage of American youth,—
the true meaning and priceless boon
of democratic institutions,—is equal
opportunity in a land of equal rights.

—W. L. WILSON.

Response 2.—(Girl)—

New occasions teach new duties; Time
makes ancient good uncouth;
They must upward still, and onward,
who would keep abreast of Truth.

—LOWELL.

Response 3.—(Boy)—

Voters are the actual sovereigns, the uncrowned kings who rule the nation.
The proudest now is but my peer,
The highest not more high;
To-day of all the weary year,
A king of men am I.
To-day, alike are great and small,
The nameless and the known;
My palace is the people's hall,
The ballot-box my throne!

While there's a grief to seek redress,
Or balance to adjust,
Where weighs our living manhood less
Than Mammon's vilest dust,—
While there's a right to need my vote,
A wrong to keep away,
Up! clouted knee and ragged coat
A man's a man to-day.

—WHITTIER.

Response 4.—(Girl)—

The riches of the commonwealth,
Are free, strong minds, and hearts of
health;
And more to her than gold or grain,
The cunning hand and cultured brain.

—WHITTIER.

VIII.—SONG—"America" (Last two stanzas.)

IX.—RECITATION. (Teacher select.)

X.—MARCHING SONG. (Let any number of pupils be provided with flags and march in order, as the teacher has directed, while singing the following song.)

MARCHING SONG.

(Tune, "John Brown, etc.")

Altho' the smoke of battle has been lifted from our land,
And instead of bloody warfare there is peace on every hand,
There's an army marching onward, a strong and loyal band,
The schools are marching on.

CHORUS.

Marching on, we swell the chorus,
Marching with "Old Glory" o'er us,
To the fight of truth before us,
We're gladly marching on.

All the boys and girls are gathered, in the East
and in the West,
To the schools that have been given by the land
we love the best.
They are gaining strength to conquer when the
future brings the test,—
The schools are marching on.

Chorus.—

Then let us all be loyal in the strife of right and wrong;
Let us learn that strict obedience makes the soldier true and strong;
Let our minds be bright with learning, let our hearts be glad with song,
As we go marching on.

Chorus.—

XI.—(The pupils at close of song, having arranged themselves in line, salute with the flag by bringing the same to a horizontal position, and exclaiming in concert, "One country"—to a vertical position, and in concert, "One language." and, raising the flag in right hand, "One flag.")

XII.—(The program may be closed by all singing "Red, White and Blue.")

FRANKLIN, IND.

PROGRAM II.

The following program was prepared by the committee of County Superintendents:

1. Salute the flag.
2. Song: America.
3. Quotations by pupils:

Gold is good in its place; but living, brave patriotic men are better than gold.—LINCOLN.

Patriotism is not the mere holding of a flag unfurled, but making it the loveliest in the world.—W. J. LINTON.

I do love my country's good, with a respect more tender, more holy, and profound than my own life.—SHAKESPEARE.

"Shoot if you must this old gray head
But spare your country's flag," she said.

—WHITTIER.

Be just and fear not,
Let the ends thou aimest at, be thy Country's,
Thy God's and truth's.

We join ourselves to no party that does not keep step to the music of the Union.—RUFUS CHOATE.

We mutually pledge to each other our lives, our fortunes, and our sacred honor.—JEFFERSON.

I know not what course others may take, but as for me, give me liberty or give me death.—PATRICK HENRY.

Thou, too, sail on O ship of State!
Sail on, O Union, strong and great!

—LONGFELLOW.

The God who gave us life, gave us liberty at the same time.—JEFFERSON.

Liberty and union, now and forever, one and inseparable.—WEBSTER.

Of all human things, nothing is more honorable or more excellent, than to be deserving of one's country.—CICERO.

Let us have faith that right makes might, and in that faith let us, to the end, dare to do our duty as we understand it.—LINCOLN.

It is well that in our year there comes one day when the word is, and when the emotion is: "Our country, our whole country and nothing but our country"—WEBSTER.

That we here highly resolve that these dead shall not have died in vain—that the nation shall, under God, have a new birth of freedom, and that the Government of the people, by the people and for the people shall not perish from the Earth.—LINCOLN.

Fling out the school house flag,
To freedom's breeze and sun,
Flag that cheered our Lincoln,
And guided Washington.

The principle of free government adheres to the American soil. * * * Let the sacred obligations which have devolved on the generation and on us, sink deep into our hearts. * * * There remains to us a great duty of defense and preservation. Our business is improvement. Let our age be the age of improvement.—WEBSTER.

I am not worth purchasing but such as I am the King of Great Britain is not rich enough to buy me.—JOSEPH REED.

Where was all this patriotism born? This love of country? From the mothers of this land these courageous, liberty-loving, patriotic young men have drawn their impulses. When our American motherhood becomes unworthy, the Republic will perish.—BENJAMIN HARRISON.

Living soldiers of the North and South take a new and special ordination at each season of the year, to garland the sepulchers of your fallen comrades. Nothing is too good for their memories. Turn all the private tombs and the National Cemeteries into gardens. Ye dead of Malvern Hill, and Cold Harbor, and Murfreesboro, and Gettysburg, and Antietam, receive these floral offerings of the living soldiers.—TALMAGE.

Fold up the banners! Smelt the guns!
Love rules. Her gentler purpose runs.
The mighty mother turns in tears
The pages of her battle years,
Lamenting all her fallen sons.

—WILL H THOMPSON.

America's the land we love,
Our broad, fair land so free,
And, schoolmates wheresoe'er I go,
This is the flag for me.

The children of distant generations may never hear my name; but still it gladdens my heart to think that I am now contending for their freedom, with all its countless blessings.—FRANCIS MARION.

I only regret that I have but one life to give for my country.—ISAAC HAYNE.

4. Paper (short): Revolution, cause, cost in money and lives. Results.

5. Recitation: Paul Revere's Ride.

6. Song: Red, White and Blue.

7. Indiana's battlefields: Tippecanoe, etc. When, where, commanders. Results.

8. Short story of the Civil War.

9. Recitation: Sheridan's Ride.

10. Battle Hymn of the Republic.

11. Paper: Indiana Soldiers. Number enlisted in State. Number and some of the most noted from our own county.

12. Song: Selection by teacher.

GRANT GOSSETT, Fountain Co. }
L. S. ISHAM, White Co } Com.
J. F. WARREN, Jasper Co. }

"With smoking axle, hot with speed,
With steeds of fire and steam,
Wide-waked To-day leaves Yesterday
Behind him like a dream;
But human hearts remain unchanged;
The sorrow and the sin,
The hopes and joys and fears of old
Are to our own akin;
And if in tales our fathers told,
And songs our mothers sung,
Tradition wears a snowy beard,
Romance is always young."

TOWNSHIP INSTITUTE WORK FOR 1896-97.

GUIZOT'S HISTORY OF CIVILIZATION (Pp. 94-123)

Lecture IV. The Feudal System.

1. In the study of history, notice the relation between facts and theories; between political conduct and political philosophy. On what two elements does the political progress of mankind depend?
2. Show the universality of the Feudal System. What does this universality show?
3. Show how feudalism affected civilization by affecting the distribution of population.
4. Compare the feudal society to the *patriarchate* and the *clan*.
5. Account for the hostility which feudalism excited in the minds of the agricultural classes.
6. Effect of feudalism on the *free* holder.
7. Character and kinds of political guarantees.
8. The army, the taxing power, fixed tribunals, as the ordinary instruments of political power. The condition of feudal society as to these. Why resistance to common authority was easy.
9. Elements of sovereignty in feudal society. The idea and nature of public authority.
10. The constituent elements in a federated system of government. Why difficult of establishment and of maintenance. Illustrate this from history. How was the feudal system a federated system?
11. What principle, or right, in society did feudalism emphasize? What did it neglect? Was its beneficial influence individual or social?
12. What powers and interests opposed feudalism?

We should constantly bear in mind in considering Guizot's History of Civilization, that we are not studying history proper, but the philosophy of history. M. Guizot is not endeavoring to give us instruction regarding the facts of history, but to aid us in drawing correct inferences from those facts. In short, he is pointing out the meaning of historical events. Any such work as this must presuppose a knowledge of those events. The term history in its truest sense should include a knowledge of historical facts and a comprehension of the meaning of those facts.

"History is not simply (multifarious) events. It is the logic of events. Historic intelligence is not merely information respecting events. It is the comprehension of their logic."* Not isolated facts, but facts in their relations to other facts should constitute the subject-matter of history.†

In the present lecture, M. Guizot takes it for granted that the readers are familiar with the essential facts concerning the origin, growth, and development of Feudalism. His work is confined

* Prof. George S. Morris, "The Philosophy of the State and of History," in "Methods of Teaching and Studying History," p. 150.

† See Hinsdale's "American Government," ch. ix.

to the interpretation of these historical events. Better results will be obtained if a review of the system be taken before the study of the lecture. Having made this review, we are prepared to consider the historical importance of the system - to recognize what Guizot calls the "inevitable alliance of philosophy and history."

In the early part of the lecture, the attention of the reader is called to the relation between facts and theories. The author states that up to the present time (about 1828), the governmental affairs were influenced by two opposing sets of men,—the theorists, "who would rule all according to abstract notions," and the experimentalists, "men ignorant of all rational principle" and guided only by expediency. He congratulates himself and readers upon the fact that this state of affairs is now a thing of the past. "Governing powers must now unite theory and practice; they must know and acknowledge the influence of both." Here is another instance of Guizot's sound sense and abiding philosophy. He was never an extremist in his political views. His keen discernment had taught him that, in most instances, the abiding place of truth was at neither extreme but in the happy medium. This is characteristic of his political philosophy. The trend of affairs during his own lifetime had naturally led him to conclude that "the blind pride of the fanatic theorist," and "the no less blind pride of the libertine practitioner" should be avoided. The French Revolution had undoubtedly made an attempt to wipe out the existing order of things and to inaugurate new and visionary institutions. Guizot had seen the failure of this attempt. He had also noted the reaction from theory to facts. Theories were now distrusted and facts were eagerly sought after. A combination of the two seemed to him the ideal way to political progress. France, he contends, has always been "rich in ideas." She certainly has; and this richness in abstract ideas without due attention to practical affairs has been all but fatal in her government. The Anglo-Saxon race has worked out the problem of government as no other race has done, by a happy combination of theory and practice. The English and American Constitutions are composed of governmental principles, sound in theory and tested in practice. The French government since the Revolution has been too much theoretical and too little practical. An attempt was made to cast precedent to the winds with the result that France has vacillated from one form of government to another during the past century. There was, in 1828, much in the recent history of France to cause the political philosopher to meditate, and also much

to lead him to the conclusions arrived at by M. Guizot.

Our author further contends that the universality of the adoption of Feudalism is proof that the system was "necessary and the only social system practicable." It is certain that Feudalism saved society from the wreck which then seemed imminent. No other political institution known to history seems at all adequate to the task. Faulty, though it may have been, it served its purpose well.

The distribution of population was also affected by the introduction of Feudalism. The seat of government passed from the city to the country. The castle of the lord became a court house, in which the government was administered and justice meted out to the people. The national government was largely replaced by a multitude of petty sovereignties. The consequences of such changes could not be of little importance. It is not clear, however, that the isolation due to Feudalism was responsible for all the changes ascribed to it by Guizot. He attributes to it the high position of woman. It would seem that the introduction of Christianity, with its softening influences, must have been responsible in some degree, at least, for the estimation in which woman was held.

M. Guizot accounts for the hostility of the agricultural classes toward Feudalism in a very plausible way. In Feudal despotism we have the authority of one man over another: "the domination of the personal, capricious will of an individual." There is no reason for this domination except the very unsatisfactory one that might makes right. There are reasons for religious and monarchical despotism which do not exist in the case of Feudal despotism. Hence, the tiller of the soil was willing to come under the protection of the Feudal lord only until a more just and equitable society could be organized.

M. Guizot speaks of the attempts to change the duties and obligations of the fief holder into laws and institutions. Such customs, habits, and sentiments lie at the basis of all jurisprudence, and had the Feudal system been a permanent institution, no doubt the change to laws and institutions above mentioned would have been effected. Such change, however, could not be forced.

The author further noted the fact that under the Feudal system there could be no "political guarantees" for the institutions. Political guarantees are of two kinds—the one existing in a monarchical form of government due to the superior will of an individual, and that other kind existing in a republic resulting from the concur-

rence of the wills of individuals. Neither of these from the very nature of things could exist under the Feudal system. M. Guizot mentions the standing army, regular taxes, and fixed tribunals as the permanent means of power and influence. These under the Feudal system, did not exist. There was no permanent central government. No general law could be enforced, and resistance to a common authority was easy. No one individual could reign supreme over such discordant elements, and hence, the first political guarantee was impossible. The other political guarantee, that existing in a republic, could not here exist—because there is no agreement either implied or expressed to abide by such authority. Under the Feudal system every law and institution—if we may call them such—had to be maintained by force.

M. Guizot is certainly correct when he asserts that the federative system is the most difficult to establish and render effectual. We find the successful federal government highest in the scale of political development. The tendency at the present time is away from monarchy and toward republicanism. The patriarchal, aristocratic, timocratic and monarchical forms have gradually receded to make way for popular government. This government requires, as M. Guizot points out, a higher intelligence, greater maturity, and more moral integrity than any other form. Such a government was an impossibility in Feudal times. The pages of history are strewn with the wrecks of unsuccessful federal governments, from the days of ancient Greece to the present time. It remained for the United States of America to present the first successful example of such a government on a large scale. The Achaian, Etolian, and Lykian Leagues in Greece, and the Italian Republics of the Middle Ages show the difficulty of maintaining a federative system of government in localities where conditions are unfavorable.

It is clear, as Guizot states, that the Feudal system emphasized the right of personal resistance. Existence demanded this. This had a salutary influence upon individuals but was destructive to society. It opposed the establishment of general order and stable government. The forces back of legalism were thus destined to prevail against the Feudal system. The growth of monarchical power, the rise of strong territorial lords, the growth of cities, and the advance of Christianity swept the institution out of existence.

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5. Andrews: *Institutes of General History*, Ch. VI, Secs. 3 to 6.
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7. Wilson: *The State*, Sec. 238, et seq.
8. Andover Review: Vol. VII, pp. 366-375, pp. 505-518. Two articles by Professor G. B. Adams of Yale University.
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THOS. F. MORAN.

PURDUE UNIVERSITY, Sept. 23, 1896.

METHOD IN GEOGRAPHY.

I. METHOD IN GEOGRAPHY IS THE MENTAL PROCESS BY WHICH THE STUDENT MASTERS THE SUBJECT-MATTER OF GEOGRAPHY.

II. SUBJECT-MATTER.

1. The phenomena of the earth as affecting man's institutional life.

III. PURPOSE.

1. To furnish the child food for thought, the mastery of which will equip him with knowledge necessary to a successful life, as well as awaken and exercise his mental faculties. (Expand and illustrate the purpose of geography.)

IV. STEPS. In general lines of work that are mainly in:

1. The sense perception stage.
2. The stage of imagination.
3. The stage of conception.
4. The stage of reasoning.

V. A BRIEF OUTLINE OF WORK FOR FIRST, SECOND AND THIRD YEARS.

1. *First year.*

- a. Lessons on: Place, form, size, distance, direction and color. (Illustrate to the institute how geography lessons may be made on these, and the mode of procedure.)

2. *Second year.*

- a. Animals may be studied in their geographical relations:
 1. That live on land.
 2. That live in water.
 3. That live in the air.
 4. That live in hot parts of the earth; in cold parts; on mountains; in forests; on plains, etc.
- b. Plants—Treated same as animals.
- c. People—Treated with respect to how they live, and what they do; what they eat, wear, etc.; the distance and direction from the child's home. (Show how one would proceed with such lessons.)

3. *Third year.*

- a. Mastery of the general ideas of the geographical elements, as hill, lake, mountains, river, etc.

NOTE—This work must be done inductively by making

1. Actual journeys to the thing studied.
 2. Imagining journeys to typical regions.
 3. Molding of the thing studied in sand.
- After studying the individuals thus, the child is led to form the concept. What other geographical value would this kind of work have?

VI. THE RELATION OF THE ABOVE INDICATED WORK TO THE SUBJECT-MATTER, PURPOSE AND STEPS IN GEOGRAPHY.

For suggestions see pp. 16-22 and 54-56, State Course of Study.

The study of Method in a subject involves, first of all, the mastery of the concept embodied in the facts of that subject. The concept of the subject is the activity which produces the facts in it, or it is the objective method in the subject.

There is a class of facts in the world which we name *locomotive*, and every one of these facts is the expression of the concept locomotive. This concept is the activity which makes every individual locomotive what it is. If every locomotive were, in an hour, swept away, the same activity which has produced thousands of these objects, might and doubtless would, immediately set mechanical forces to work to produce thousands more of them. That which is true of the class of facts in the world which we call locomotive, is likewise true of all other *classes* of facts. There is a class of facts which we call grammar facts. They differ from locomotive facts, multiplication facts, history facts, or any other class of facts, because they embody an idea which is distinct from that in any other class. The activity which produces a grammar fact never produces any other kind of a fact.

So also there is a class of facts in the world to which the name *geography* has been given. Geographers are not agreed as to just what the concept or activity is which makes a fact a geography fact, and, hence, the scope of geography has not been definitely settled, and it is because of this lack of agreement as to what the geography concept is. However, it is not our purpose to enter into any discussion of the different views and their merits; we shall base our discussion upon the view which is assumed in the "Township Institute Outline" and in the "State Manual of the Course of Study," which is—*The earth as an organism viewed as affecting and affected by man's institutions*, is geography.

This expresses the geography concept as it is held by one class of students in this subject. If we analyze this concept we shall find that it involves four elements which enter into every geographical fact; viz., *a fact of earth; a fact of institutional life; the effects of the fact of earth on the fact of institutional life; and the effects of the fact of institutional life on the fact of earth.* For example, the Mississippi Basin is not a fact of geography, but it is one element in such a fact. *The Mississippi Basin is a fact of earth; in this Basin are certain institutional facts; the fact of the Mississippi Basin has certain effects upon the institutional life of that region; and the institutional life of that region*

has certain effects upon it. When I have studied the four points named, I have mastered a *geographical fact*.

The same point may be illustrated with a much smaller fact. At Terre Haute there is a wagon-bridge across the Wabash River, which is an institutional fact; the Wabash River with its depth, width, etc., is a fact of earth; the fact of the river with its depth, width, etc., impedes travel or communication; man removed this impediment by making various changes in the physical facts and putting a bridge across it. These four points together constitute a *geographical fact*, according to the view assumed. From these examples we may see what is meant by the concept embodied in the facts of geography or the objective method in it.

The second vital point in the study of Method in a subject, is to see the mental process by which the pupil is to master the facts of the subject or the subjective method.

The mastery of the first point considered—the objective method in the subject—reveals this second point. To know the elements in the activity which makes a geographical fact, shows the corresponding *steps* which the mind must take in changing it into knowledge. This is the *subjective method in geography*, and is, therefore, the *main, distinctive* process. Hence, in the mastery of a geographical fact, there are four steps:—

1. The activity in grasping the facts of earth.
2. The activity in knowing the fact of institutional life.
3. The activity in thinking the effects of the fact of earth upon the institutional fact.
4. The activity in thinking the effects of the institutional fact upon the fact of earth.

In acting these four steps, different forms of mental activity may be employed. These are *subordinate processes*. For example, if the fact of earth is *frost*, it may involve sense-perception, memory and inference. But if the fact of earth is the Rhine River, its mastery will involve imagination, and possibly memory and inference. Then, in thinking the institutional fact, the same forms may be employed. In thinking the effects of the fact of earth upon the institutional fact, inference and maybe other forms are involved, and so with the fourth step. These processes are not distinctively geographical processes, but they are subordinate processes involved in the main process. These subordinate processes are forms of activity employed in all subjects, while the *main process* is employed in no other subject.

It is important here that the *steps* in mastering a geographical fact should not be confused with *steps* in a particular lesson. The steps in the mas-

tery of a geography fact are four, as we have said, and always four; but the steps in a particular lesson may be any number, and is determined by the constituent ideas in the lesson to be presented.

When the *subjective method* is determined there are three points growing out of it to be considered:—

1. The pupil's real mental condition in relation to this process or change. The pupil has a certain equipment, or basis for acting the process, which consists of certain knowledge, power and interests. These points the teacher should know before beginning to stimulate the process.

2. The pupil's ideal condition in relation to the process; i. e., what is to be the mental effect to be produced in the pupil by acting the process. When this is seen, it becomes the teacher's purpose to so conduct the process as to realize this ideal in the pupil. It should be held in mind that the mental effect is three-fold—intellectual, emotional and volitional.

a. Intellectual.

- (1) Primarily to fix the habit of acting the *geography activity*.
- (2) Secondarily, to increase the pupil's capacity to perceive, remember, imagine, judge and reason. A careful examination of any geographical fact will reveal the degree of opportunity to do this.

b. Emotional.

- (1) Primarily, to stimulate a true interest in mastering the field of facts which embodies the *geography activity*.
- (2) Secondarily, to stimulate interest and sympathy in objects of nature and man, and their mutual relation, and also reverence for the Creator.

c. Volitional.—To stimulate in the pupil purposes which are in harmony with the relations which he sees in the study of geography.

3. The third point to be considered growing out of the subjective method is the *means*.

This is the last point to study, because it is based upon all the others. If the teacher is thinking of the process in a single fact, the first important means is the particular arrangement of the points to be presented, then the devices to be used in presenting them.

If the teacher is thinking of the whole subject, then the first important *means* is the *course* in the subject for the different grades. We shall confine the remainder of this discussion to this means

and to the course for the first three years, since those are the three to which the reader's attention is directed in the "outline."

In determining the course in geography, or any branch of study for the grades, there are principles of knowing, which must be held in mind, in addition to the points in Method given above.

(1) The principle of knowing (or apperception); viz., *that the mind acquires new ideas by means of ideas already possessed*.

This principle determines that the work of each grade shall be based upon what the child knows in relation to geography, before he enters upon it, and the work of each grade shall in turn become a basis for the grade which follows it.

(2) The principle of knowing; viz., *that the mind knows an object (or subject) as a vague whole first, then analyzes it into elements, and then synthesizes or distinctly organizes it*.

This principle shows that the pupil should first get a vague general view of a subject as a whole, then analyze it into its divisions and sub-divisions and study them in detail, and then think it as an organic whole.

In the light of these two principles, the first great stage or movement in geography is to begin with the vague, simple, and often inaccurate notions of the pupil, and give a vague general conception of *the earth in relation to man*, as a whole. This may embrace the work of about the first three years.

1. *First year.*

In this year the child is to be given a view of the earth in its relation to man as he can *observe* it. Hence, the teacher would select those geographical facts in the pupil's home region (not township or district), which are most important in showing the geography of that region to the pupil. The work here cannot be made rigidly systematic, but the pupil learns about facts of earth, and facts of the life of the people and their relation to each other more or less vaguely, and incidentally gets ideas of distance, direction, form, size and color.

2. *Second year.*

In the second year the pupil is to be given a view of the earth as a whole in its relation to man, as he can imagine it, from different points of view, or from different *types* of regions. This idea is beautifully illustrated in Miss Andrews' little book entitled, *The Seven Little Sisters*.

In this work the pupil will not make a systematic study of any division of the subject-matter of geography, but is still extending his conception of the whole of subject.

His ideas of the earth as to its size, natural divisions, etc., peoples and their activities, modes

of communication, etc., plant life and animal life, and incidentally distance, direction, etc., are all being greatly extended and amplified.

3. *Third year.*

In this third year the pupil is to make these different views of the earth in its relation to man into one view, or a vague idea of the whole of which geography treats. In doing this, he is to be impressed with the mutual dependence of these regions and peoples upon each other, as in the second year, he is impressed with the relation of earth to man and man to earth. Miss Andrews illustrates this point and spirit of the third year's work in her book entitled, *Each and All, or How These Sisters Prove Their Sisterhood*.

In these three years the pupil has gradually enriched his conception of the earth, its inhabitants and the influence each has upon the other. He has not studied any division of the subject-matter as such, but has built up a vague idea of the thing he is to study in its divisions and details in subsequent grades. He has now a something in his mind to be analyzed and studied in detail, and he also is interested in this object which furnishes intellectual and emotional basis for his analytic study of the subject. He is, with the above suggested equipment, ready to enter upon the second great movement or stage of the subject; viz., the formal or systematic study of the divisions of the subject in their relations and details.

A. R. CHARMAN.

GRAMMAR.

I. THE THOUGHT.

1. How formed.
2. Elements of.
 - a. Thought subject.
 - b. Thought predicate.
 - c. Thought relation.
3. Definition of thought.
 - a. Definition of the elements of the thought.
4. The relation of the thought to the sentence.

The thought is formed by the activity of the mind in asserting a relation between ideas, or the activity of the mind in asserting a relation between ideas *is* the thought. The mind has the idea *sun*, and the idea *bright*, but these two isolated activities do not form a thought. The attribute *bright* might belong to the object of thought, *dollar* or *ring*. In order to have a thought, the mind must see the attribute *bright*, in relation to the object of thought, *sun*. When it sees that the attribute belongs to the *sun*, or does not belong to the *sun*, it has a thought.

Read the following:

1. "Studies in the Science of English Grammar," (Wisely) p. 13.
2. "A New English Grammar," (Wisely) p. 24.
3. THE INLAND EDUCATOR for October, 1895, under the title "Science in the teaching of English," p. 177.

A thought is a mental activity in which the mind asserts a relation between ideas. It will thus be seen that every thought has three elements:

- (1.) An idea about which the mind asserts something. We call it the thought subject.
- (2.) An idea which the mind asserts of the thought subject. We call it the thought predicate.
- (3.) The assertion or relation between the thought subject and thought predicate. We call it the thought relation.

It is this triple activity which the sentence expresses.

References:

1. Same as indicated above.
2. Any good text in logic; e. g., Jevon's *Lessons in Logic*, p. 60.
3. Everett's *Science of Thought*, p. 93.

II. THE SENTENCE.

1. Its purpose.
2. Its elements.
 - a. Essential.
 - (1.) Subject.
 - (2.) Predicate.
 - (3.) Copula.
 - (a.) Two good definitions for each.
 - b. Modifying elements.
 - (1.) Purpose of.
 - (2.) Definition of.

The only use for the sentence is to express the thought. It is a mere instrument for expressing the thought. The instrument is always determined by the work which it has to perform. (Illustrate this by any well-known instrument; e. g., the pencil, pen, knife, sewing-machine.) The sentence will, therefore, have three parts, corresponding to the three elements of the thought; viz., subject, predicate, copula.

The subject of the sentence is a word or group of words expressing the thought subject. The subject of the sentence is that part of the sentence which expresses the thought subject.

The predicate of the sentence is a word or group of words expressing the thought predicate. The predicate of the sentence is that part of the sentence which expresses the thought predicate.

The copula of the sentence is a word or group of words expressing the thought relation. The

copula of the sentence is that part of the sentence which expresses the thought relation.

References:

1. Same as given above.
2. Everett's Science of Thought, p. 94.
3. Elements of Logic, (DAY) p. 44.
4. Reed and Kellogg's Higher Lessons in English, lesson 29.
5. Our Language, p. 184.
6. Lee and Hadley's Grammar, pp. 53-55.
7. Whitney's Essentials of English Grammar, p. 158.
8. Complete Rhetoric, (WELSH) p. 6.

The modifying elements of the sentence are those subordinate parts which belong to, define, limit, modify, or in some way change the meaning of the principal parts.

These subordinate parts are called modifiers. They may be words, phrases, or clauses.

I. MODIFIERS.

1. Substantive.
 - a. Appositive.
 - b. Possessive.
 - c. Direct objective.
 - d. Indirect objective.
 - e. Adverbial objective.
2. Attributive.
 - a. Adjective.
 - b. Adverbial.

(Define and illustrate each of these)
A New English Grammar, (WISLEY)
pp. 63-65.

III. THE RELATION OF THE THOUGHT AND THE SENTENCE TO THE SUBJECT-MATTER, PURPOSE, AND STEPS OF GRAMMAR.

(Bring this out clearly for the Institute. The sentence is the unit or subject-matter of grammar. It expresses the thought and is in every way determined by the thought. It contains the organizing principle of the subject, etc., etc.)

IV. EDUCATIONAL VALUE OF I AND II ABOVE.

V. EDUCATIONAL PRINCIPLES WITH WHICH I AND II ABOVE ARE IN HARMONY.

(Apply the doctrine of apperception to them.)

The student will be helped in working out the last three points by reading the articles in THE INLAND EDUCATOR, under the title "Science in the Teaching of English," and the introductions to Wisely's grammars. See also, "A New English Grammar," (WISLEY) pp. 12-30 on III above.

LITERARY INTERPRETATIONS.

1. In light of the three inseparable phases of discourse show that, in the analysis of a production, the teacher may lead off with either the language, the imagery, or the theme, depending on the class or on circumstances—that either is logical and methodical; at least, methodical.

2. Present, in full detail, the imagery in the "Vision of Sir Launfal."

3. State the separate truths mirrored by the different parts of the imagery.

We have great pleasure in presenting an able article on "The Message of the Vision of Sir Launfal," by Mrs. Emma Mont McRae, in this issue. The November number will have the remainder of her discussion. Teachers will, undoubtedly, find great help in her interpretation.—Eds.

HEROES.

There are heroes among the pupils. Here is an instance among many that might be written:

Two boys were in a school-room alone together, and exploded some fire-works, contrary to the master's express prohibition. The one boy denied it. The other, Ben Christie, would neither admit nor deny it, and was severely flogged for his obstinacy. When the boys got alone again—"Why didn't you deny it?" asked the real offender.

"Because there were only we two, and one of us must have lied," said Ben.

"Then why not say I did it?"

"Because you said you didn't, and I would spare the liar."

The boy's heart melted; Ben's moral gallantry subdued him. When school reassembled the young culprit marched up to the master's desk, and said: "Please sir, I can't bear to be a liar—I let off the squibs," and he burst into tears. The master's eye glistened on the self-accuser, and the undeserved punishment he had inflicted on the other boy smote his conscience. Before the whole school, hand-in-hand with the culprit as if he and the other boy were joined in the confession, the master walked down to where young Christie sat, and said, aloud: "Ben, lad—he and I beg your pardon. We are both to blame." The school was hushed and still, as other schools are apt to be when something true and noble is being done—so still that they might almost have heard Ben's big boy-tears dropping on his book, as he sat enjoying the moral triumph which subdued himself as well as all the rest. And when, from want of something else to say, he gently cried: "Master forever!" the loud shout of the scholars filled the old man's eyes with something behind his spectacles which made him wipe them before he sat down again.—*New York School Journal*.

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CHARLES M. CURRY, } *Editors.*

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Another Friendly Chat. Owing to the great increase in our publishing business, a reorganization has been necessary in order to give it the proper care. It will be noticed from the statement at the head of this page that Superintendent Chas. F. Patterson of Edinburg, becomes president of the company, Isaac Craft of The Havens & Geddes Co., this city, vice-president, and Walter W. Storms, secretary and treasurer. No change whatever is made in the editorial management or policy of THE INLAND EDUCATOR. The company is especially gratified at securing the services of Professor Storms, who really becomes the active manager of the busi-

ness. Besides having been identified with the teaching profession for a number of years, Professor Storms has had a great deal of business experience that enables him to take up the work at once and carry it forward.

* * *

Failure to estimate properly the great advance in THE EDUCATOR's subscription list has caused us to run short of September copies. If any of our readers have copies that they are willing to part with, we will advance their subscriptions one month, and in addition send a copy of each of the four INLAND EDUCATOR monographs advertised in another column. In sending copies to us be sure that your name and address appear on the wrapper for purposes of identification.

* * *

Some of our new subscribers received their August issue after the September one, and very much later than they should have been mailed. The delay was caused by the fact that we were obliged to print a second edition of 5,000 copies of the August number. In all, 17,000 copies of that number have been printed.

* * *

THE EDUCATOR has been receiving during the past few months a larger number of complaints from subscribers in regard to the failure to receive their copies than ought to be the case. We use great precaution in mailing THE EDUCATOR each month, but it is impossible, of course, to avoid a few mistakes in so large a number as we now send out. Our readers can help us in this matter if they will notify us after a reasonable lapse of time of their failure to receive their copies. Occasionally the fault is ours, but in a number of instances the delay has been due to matters not under our control. Our agents occasionally make mistakes in reporting names, and frequently, subscribers in giving their names to agents fail to inform them clearly as to whether they are new or old subscribers, etc. It will be our aim to have our books as correct as possible, and to this end we ask the cooperation of all our readers. We want to state again, as we have stated many times in the past, that THE EDUCATOR is devoted to the interests of the teaching profession, and that in order to make it of the most good, subscribers and publishers and editors must all work with one accord for its up-building. We still receive, from time to time, communications from persons enclosing money without any name or address accompanying the same. Of course, in most cases we are able to locate at once the difficulty, but frequently, when the remittance is in currency and there is no way to identify the party it

creates considerable trouble. A little care on the part of our correspondents will remove any necessity for calling attention to such matters as this in our editorial columns.

* * *

We have great pleasure in presenting this month a special supplement to our readers, in which a rather full account is given of the County Institute work in Indiana. This special supplement while issued for the special benefit of our Indiana readers will be, we think, of general interest everywhere. The regular amount of reading matter is furnished, including two programs for Patriotic Day.

* * *

Child-Study. A great deal has been said and written on this subject. The educational world has acted as though a discovery had been made. Clubs and classes and papers and special investigations have organized under this banner until it looked as if it would become a mere fad in educational circles. However, child-study is now recognized as no new thing. It is generally understood that this has been the sole source of all pedagogical principles. Teachers are merely placing more stress upon the fact that all school questions must be settled by the child, and all educational problems solved by its nature. Every educational reformer that we know anything about obtained his insight at the fountain head of educational principles—the child. So educators to-day, are anxious to learn what advances can be made, and they are turning to this same source and making the child a closer study than ever before. It is because they recognize that the school exists for the child. Because the child must determine everything—the building, the furniture, the books, the teacher, the course of study, the length of school, the punishments—they are turning to it and asking these questions. We have no doubt a great many foolish things have been done in the name of child-study; doubtless, thousands of experiments under scientific caption have been performed that are utterly worthless as far as immediate returns from the experiments themselves are concerned; but the very spirit of investigation has been worth much in determining what will be of worth to education. Doubtless, perfect equipment for generalization in this direction would require expert biological insight, expert anthropological insight, expert physiological insight and expert psychological insight combined, plus a “divining faculty which is the offspring of child-love.” But not many examples of such a combination have exhibited themselves, and mean-

while millions of children are passing their only childhood. We believe that biology has done great things towards a solution of the problem of education; we believe that the child is an epitome of the race; we think that physiologists and psychologists have aided largely in our progress; but we believe that every teacher may study the child and get large returns for his pains. The line of investigation that every teacher should pursue, should be one that will immediately make him a better teacher and enable him to do the greatest good for the pupils he is teaching. Let us suggest here the one thing that every teacher needs to do first: *get in touch with every pupil in his classes.*

Thring says: “No one has asked the simple question, what it costs to teach anything properly to each boy in a class. No one has examined whether it is possible under existing conditions to teach each boy. And, of course, the further questions, What is the percentage of untaught? what becomes of the untaught? and what becomes of the teachers who have not time to teach, and never learn how to teach in consequence? have not come to the surface.” But these are the questions that need most of all to be asked and to be answered. And these are the questions which every teacher must ask and answer in his own work; and his success may be measured by the percentage of untaught in his classes. Then the first investigations in child-study for every teacher should be in this direction: How many in my classes am I reaching? How many are inattentive? Why are they inattentive? On my part: Is the presentation such that it calls forth their greatest self-activity? Are its parts so closely dependent upon each other that continuous self-activity is demanded? Are my illustrations the best? Is my presence commanding? Is my voice gentle? On the part of the pupil: Has he some peculiar bent that leads him in spirit away from the class? Is he physically defective? Is he growing rapidly? Does he sleep well? Does he have good food and in sufficient quantities? Does he breathe through his nose? Is he susceptible to heat or cold? Does he see and hear well? Does his seat fit him? Has he had any recent sickness? Is his past experience or knowledge insufficient? These may hint some lines of study which will bring immediate returns.

* * *

James H. Smart. We are pleased to present our readers this month with an excellent picture of Dr. Smart, President of Purdue University. Dr. Smart was the moving spirit in the great exhibit that Indiana made at

Philadelphia in '76, which gave her schools a world-wide reputation. He has been closely allied with all of our educational interests for a quarter of a century and more. As President of Purdue University and a member of the State Board of Education, he is in close touch with our educational interests to-day. He has shown great power in his present position, and has made Purdue recognized as one of the best equipped and working technical schools in the country. His faculty and students speak of him only in terms of highest praise. He is a native of New England, and came West in 1863 to accept a position as teacher in the Toledo schools. In 1865 he was elected Superintendent of Schools at Ft. Wayne. He was elected State Superintendent of Public Instruction in 1874, and held this office for three consecutive terms. He was chosen President of Purdue University in 1883. He was educated in the East, and received the degree of Master of Arts from Dartmouth College, and of LL. D. from the State University of Indiana. He has twice been sent abroad by the government, and was Assistant Commissioner of the United States to the Paris Exposition in 1878. He has held several important educational offices in this country, having been President of the National Educational Association in 1882, and President of the American Association of Agricultural Colleges and Experiment Stations in 1892.

For What May Special School Funds be Expended? A trustee in Northern Indiana, on trial for spending the Special School Funds for Reading Circle books, was sent the following letter from the State Department of Public Instruction, intended to show that such a purchase is legal:

It is a well established principle in law, that the courts will interfere when proper action is brought to compel any officer to perform a ministerial duty, but will not compel the performance as a discretionary duty.

Section 4444 R. S. "The Trustees shall take charge of the educational affairs of their respective townships, towns, and cities. They shall employ teachers; establish and locate, conveniently, a sufficient number of schools for the education of the white children therein; and build, or otherwise provide suitable houses, furniture, apparatus, and other articles and educational appliances necessary for the thorough organization and efficient management of said schools." Note particularly the expression "and other articles and educational appliances necessary for the thorough organization;" it seems to me that this is a discretionary power altogether in the hands

of the Township Trustee. He alone must decide what articles and appliances are necessary, and he alone must define the word "necessary." Some may hold dictionaries; others, wall-maps; others anatomical manikins, and so on through the list so far as the reasonableness of a purchase is concerned. The argument will always be in favor of supplementary reading books as against any other appliance; such as globes, manikins, etc., in our district schools.

There is but one text-book for a grade in reading. In the primary and intermediate grades particularly, when children are required to go over and over again these selections, they commit them to memory and recite them automatically; there is no attempt at reading, and no desire to read. If supplementary reading be introduced, such reading, if properly selected, covers a wide range of subjects; such as science, biography, stories in history, and well-written selections in literature. These are not only full of interest to the child, but unexcelled as an opportunity to give him employment and teach him to master the thought of a subject himself. In other words he *learns to read*.

The Township Trustee, through his relations with the County Superintendent, and visits to his schools, has an opportunity that no other person can have to study the needs and necessities of his pupils. He must determine what educational appliances are necessary, and he alone must be held responsible by the people of his township.

Again, section 4442 requires that the special school revenue, belonging to the township, town or city, etc., shall be kept separate in the accounts, because it is local revenue, raised by taxes for the express purpose of the use of the local corporation.

The Township Trustee is, by law, School Trustee. He is representative of the local corporation, not only in selecting and employing teachers, but in the general management of the schools. So long as he acts according to his best judgment in providing every facility for the advancement of the educational work of his township, no action will lie against him, if the spirit of the law be understood.

The one thing to be considered in a matter of this kind is the intention of the Trustee in purchasing supplemental work for the school. There can be one implied intention, and that is the advancement of the schools of his township through an intelligently, well selected course of general reading. When we take into consideration the cost of supplemental reading compared with such appliances as unabridged dictionaries, globes, out-

line maps, etc., the comparison is always in favor of reading. A Trustee may buy fifteen or twenty good books for the price of an unabridged dictionary. Is there any one who would think for a moment that such a number of good books is not worth more in an educational way than a dictionary? The same comparison may be made of outlined maps, globes, etc., always in favor of the supplemental work in reading.

We have outgrown the notion that a child can read when it is able to recite a piece verbatim. Reading is a test of one's own ability to interpret a printed page, and this can only be done when a child has in his possession something that he is interested in, through which he will try to master the thought.

We would not go too far in saying that supplemental reading alone would be worth more as an educational experiment than all text-books, maps, etc., combined, simply because the reading exercises come more nearly in touch with the life of the pupil than do the others; many of which are compilations of statistical matter void of interest to pupils.

* * *

Supt. Geeting's Travels.

On another page we print a statement of the travels of State Superintendent Geeting during the institute season just closed. The trip was planned before the season began, and not only carried out to the letter, but two more counties were reached than the schedule called for. It was thus possible for the County Boards to convene and talk over with the State Superintendent many points of vital interest. Such an organized plan of visiting will certainly result in bringing the State department into closer touch with the work over the State and greatly increase its efficiency.

* * *

Indiana School Books.

Superintendent Geeting has sent the following letter to the City Superintendents over the State. It contains information of value to teachers in general:

INDIANAPOLIS, }
September 10, 1896. }

To the City Superintendent of Schools:

DEAR SIR:—Will you kindly send me, at your earliest convenience, a list of the principals and assistant principals in your high school? I wish to place their names in the Directory of Indiana School Officials for 1896-7.

Pursuant to the provisions of the School Book Laws of 1889 and 1891, the State Board of Education, acting as a Board of School Book Commissioners, on the 29th day of June, 1896, entered

into contracts with the Indiana School Book Co., of Indianapolis, Ind., D. C. Heath & Co., and Ginn & Co., of Chicago, Ill., for the furnishing of the following text-books to be used in the State of Indiana for a term of five years:

INDIANA SCHOOL BOOK CO., OF INDIANAPOLIS, IND.

"Indiana State Series Spelling Book," ten (10) cents.

"Indiana State Series Primary Lessons in Human Physiology," revised, thirty (30) cents.

"Indiana State Series Advanced Lessons in Human Physiology," revised, sixty (60) cents.

D. C. HEATH & CO., OF CHICAGO, ILL.

"Hyde's Practical Lessons in the Use of English," twenty-five (25) cents; exchange price, 17 cents.

"Hyde's Practical English Grammar," forty (40) cents; exchange price, 28 cents.

GINN & CO., OF CHICAGO, ILL.

"The Leading Facts in American History," revised, sixty-five (65) cents.

All the above books will be used in the schools of the State for a term of five years.

The physiologies and history have been carefully revised. The grammars, except the intermediate, are new to most of the teachers of the State.

As indicated above, the exchange prices of the above are: Primary, 17 cents; Advanced, 28 cents.

Trusting that all sections of the State may adopt the new books at the earliest possible moment that the most good may come to our schools, I am

Yours very truly,

D. M. GEETING,

President of State Board of Education.

* * *

Montgomery's Leading Facts in American History.

The following letters which explain themselves, have been sent to school officers over the State by the State Board of Education:

INDIANAPOLIS, INDIANA, }
September 14, 1896. }

To the County Superintendent:

DEAR SIR:—The State Board of Education, acting as a State Board of School Book Commissioners, Saturday, September 12, 1896, voted unanimously to send the following information to the school officers of the State:

"To the school officers of the Cities, Towns, Townships and Counties of Indiana:

You are hereby notified that information has come to the State Board of Text-Book Commissioners of Indiana to the effect that some of

of the Text-Books on U. S. History, published by Ginn & Co. and received by you have not been revised according to the directions of this Board, and as required by agreement made between this Board and Ginn & Co. And that said Board also believes that all the Histories lately sent to you by said publishers are also defective in this respect and are, therefore, in fact, not the books adopted by the Board.

You are, therefore, advised not to receive or distribute any copies of Montgomery's Leading Facts in American History until such revision shall have been completed according to the directions of this Board and you shall be notified of same.

We further advise you that we have had an interview with a representative of the house of Ginn & Co., and that said representative has informed us that the errors and omissions were unintentional, and that the house will carry out the agreement made with the Board.

For the State Board of Education,

D. M. GEETING, President.
D. K. GOSS, Secretary."

INDIANAPOLIS, INDIANA,)
September 21, 1896.)

To the County Superintendent:

DEAR SIR:—Since sending circular No. 45, Ginn & Co. have met the requirements of the State Board of School Book Commissioners, in the revision of the History, in every detail.

All the changes which the Board demanded were made and inserted in the new histories sent out, except the re-writing of section 359, page 326, which is now completely revised, and the four pages of biography following page 365. The four pages following 365, should contain biographies of Grant, Hancock, Rosecrans, Sherman, Howard, Logan, McPherson and Reynolds, and the descriptions of the battles of Murfreesboro and Lookout Mountain and Missionary Ridge.

The new history will be known by the two changes mentioned above.

Any arrangement which the school officers and Ginn & Co. may make for placing the new material in the books now in the hands of the school officers, will be satisfactory to the Board.

Yours truly,

D. M. GEETING, President.
D. K. GOSS, Secretary.

"Labor is life! 'Tis the still water falleth;
Idleness ever despaireth, bewaileth;
Keep the watch wound for the dark rust assaileth;
Flowers droop and die in the stillness of noon.
Labor is glory! The flying cloud lightens;
Only the waving wing changes and brightens.
Idle hearts only the dark future frightens;
Play the sweet keys wouldst thou keep them in tune."

EDUCATIONAL INFORMATION.

Indianapolis employs 460 teachers in her public schools this year.

D. O. Coate of the class of '96, Indiana State Normal, has entered the State University for the year.

Miss Charlotte N. Mallotte, who taught in the Decatur high school last year, has accepted a position in Vincennes University.

Charles Swain Thomas of Indiana University, is in Harvard University for the year. He will study along his line of work in English.

Miss Mary Anderson will complete her course in Ann Arbor in February, and will return to her position in the Indiana State Normal School for the spring term.

Professor Francis W. Shepardson of the University of Chicago, has just returned from six months travel in Europe. The readers of THE EDUCATOR may expect something from his pen during the year.

Professor E. B. Bryan of Butler University, did seven weeks of institute work this season—one week more than any other instructor in the field; last year he worked eight weeks. His work is very much appreciated.

The State superintendent of Kentucky, W. J. Davidson, reports that the Hiles Compulsory Education bill which went into effect last month, has increased the attendance throughout that State more than ten per cent. on an average.

J. F. Brown, Ph. D., formerly superintendent at Westfield, and principal of Spiceland Academy, has accepted a position as instructor in Philosophy in Indiana University. The appointment is considered an excellent one.

Professor Robert J. Aley of Indiana University, is settled in Philadelphia for the year, where he will do advanced work in the University of Pennsylvania. Professor Aley had every Institute week full in the season just closed.

Miss Helen Harding, who graduated from the State Normal in 1895, has recently gone to the Sandwich Islands, where she has accepted a position. Her special work will be primary teaching and training of native young women for teachers.

Professor Calvin Thomas of the department of Modern Languages at Michigan State University has decided to accept the professorship of Romance Languages, tendered him by Columbia College. Professor Thomas becomes the successor of the late Professor H. H. Boyesen. Professor Thomas has spent the past year studying in Europe.

Miss Sallie E. Cotton has accepted a position in the Indianapolis schools until February 1, when she will take her position in Chicago University. Miss Cotton is a graduate of Lake Forest University, and is Professor John M. Coulter's secretary.

In Brooklyn, N. Y. ten public school teachers have been retired under the Teachers' Retirement Fund law. The fund, which is made up of one per cent. of the teachers' salaries, amounts to \$9,000. The pensions of the retiring teachers will range from \$325 to \$1,100 a year.

Ex-State Superintendent John M. Bloss is visiting his many friends in Indiana. Since leaving Indiana, he has been superintendent of the Topeka, Kansas, schools and more recently president of the State Agricultural College of Oregon, which position he has just resigned.

The demand upon the Department of Public Instruction at Indianapolis for Institute Outlines and State Manuals this year, is unparalleled. 35,000 Manuals printed last year and this have been used already, and the edition of 18,000 Institute Outlines has been exhausted.

Mrs. Susan G. Patterson, superintendent of schools at Union City, Indiana, died just as her schools were ready to begin for another year. Mrs. Patterson was held in high esteem in Union City, where she has been many years, and she will be missed in the educational gatherings of the State.

Superintendents Belman, Ayers, Moore and Ogg of Hammond, Lafayette, Frankfort, and Greencastle respectively, have jointly compiled a Manual and Course of Study for the use of their teachers. They took the course of study adopted for cities and towns in Indiana at the meeting of the Superintendents' Association a year ago, made such slight modifications as the years experience had suggested, outlined certain parts, and made such suggestions as would aid the teachers in using the course. The work is well done, and we think the move an excellent one.

The Superintendents' Club of Northern Indiana, held its Fall meeting at Frankfort, September 25 and 26. On Friday Superintendents W. S. Almond of Delphi, Edward Ayres of Lafayette, W. C. Belman of Hammond, B. J. Bogue of Mishawaka, R. A. Chase of Plymouth, J. W. Hamilton of Monticello, Wm. A. Millis of Attica, Calvin Moon of South Bend, B. F. Moore of Frankfort, W. R. Snyder of Muncie, and State Superintendent Geeting were present. The topics for discussion were live ones. The first subject that

engaged their attention was "Does language work enable the child to read?" The Frankfort schools were visited.

Princeton University will hold her sesquicentennial celebration October 20th, 21st and 22d. The first charter for this institution was signed October 22, 1746. On Tuesday, October 20th, there will be a commemorative religious service, at which President Patton will deliver the discourse. Wednesday is set apart for the Alumni. Professor Woodrow Wilson, '79, representing the American Whig Society, will deliver the oration, and Rev. Dr. Henry Van Dyke, '73, representing the Clioaphic Society, is the poet for the occasion. In the afternoon the undergraduates have arranged some athletic contests. The evening will be taken up by a torchlight procession of undergraduates and Alumni, the rendition of student songs of Princeton, and addresses from the steps of Nassau Hall.

The committee on rural schools held several meetings during the sessions of the N. E. A. at Buffalo. They decided upon holding a general meeting of the entire committee at Chicago, November 18th, 19th, 20th and 21st. The sessions will be held at the Auditorium from 9 to 12 A. M., and from 3 to 6 P. M., the evenings being reserved for such purposes as may seem best at the time. They also recommend that the preliminary reports of the different subcommittees be placed, either typewritten or printed, in the hands of each member of the committee before November 5th. It is the intention of the committee, as far as possible, to avail themselves of the knowledge and experience of those who have devoted much thought and study to the questions involved in the rural school problem. For this purpose they will probably invite several such persons to be present at Chicago, and to join in the discussions of the several topics. The directors of the association appropriated an additional \$1,000 for the purposes of this committee.

OBITUARY.

PROF. ARNOLD TSCHUDY.

Born at Interlachen, Switzerland, September 11, 1871, Arnold Tschudy had but reached the age of 25 years and two days when he died of congestion of the brain, last Sunday at 2 o'clock, at the home of his aunt, Mrs. Peter Henderson, six miles south of Rochester.

The deceased passed the greater part of his early life in his native land, leaving Interlachen at the death of his mother when he was only six years old, for Walderburgh, where he spent the next eight years in a struggle for an education,

graduating from the Gymnasium or high school of Basle at the age of fourteen years. In 1890 he came to the United States, and being quick to adopt our manners and customs it was but a short time until he was thoroughly Americanized; the thoroughness of his previous training enabled him to enter the Senior class of Indiana University in 1893, and to graduate with the degree of Bachelor of Arts in 1894. Eighteen months later he was elected instructor in German, and Librarian in the Rose Polytechnic Institute at Terre Haute, which position he held at the time of his death.

Though born of noble parentage, the Tschudy family reaching back in the history of Switzerland for ages, and numbering among its members some of the most brilliant lights of Switzerland's civilization, Arnold was modest and unassuming. He inherited the culture and refinement of his ancestors until courtesy became an instinct, and though master of five languages he was retiring and simple in his speech, only saying that which should be said, and doing that which should be done.

In religious trend he was a member of the Swiss Reformed Christian church, while in moral action his purity of thought and his conscientious execution of purpose made him an example well worthy of emulation. In companionship he sought only the best, and the tone of any circle of acquaintances was always elevated by his entrance into it. In his death the world loses a scholar and a gentleman, while those who knew him best realize that they have lost a friend.

Rev. Cook delivered the funeral address, and all that was mortal of Mr. Tschudy was laid to rest in the Mt. Olive cemetery, Tuesday afternoon. Floral offerings were sent by the Faculty of Rose Polytechnic Institute, the Century Literary club of Indiana University and the Fulton County Teacher's Association, while a large crowd of friends attended him to his last resting place.

C. O. PHILLIPS.

MURRAY BRIGGS.

Murray Briggs, president of the Board of Trustees of the Indiana State Normal School, died at his home in Sullivan, Indiana, on Friday, September 18th. At the chapel exercises of the school on the following Monday morning, President Parsons paid a brief tribute to his memory, after which the school adjourned for the day, and several members of the faculty, school and Board went to Sullivan to attend the funeral services. We print below the remarks of President Parsons before the school.

Within the past four years three members of

the Board of Trustees of the State Normal School have passed away. The first was Dr. Barnabas C. Hobbs, who had been, except during his absence in Europe for two years, a trustee since the organization of the Board in 1865. Two years later Dr. B. F. Spann, who had been a trustee for many years, was called, and at nine o'clock last Friday night Mr. Murray Briggs, the president of the Board of Trustees, died at his home in Sullivan.

It was my fortune to know these three men intimately and well. In their official relation to the institution which they had large voice in managing for so many years, they were most



painstaking, conscientious and devoted. It would be difficult for any public institution to come under the control of men who would be more faithful to their trust and more conscientious in their efforts to promote its interests.

Being a frequent visitor in their homes, I also knew these men in their personal and private lives, and they were as simple, just and exemplary in private life as they were upright, honest and faithful in public station.

Murray Briggs was born in Newark, Ohio, April 26th, 1830. He did not have the advantages of an extended and systematic education, but entered his father's printing office at the age of fifteen,

where he remained until he was twenty-one, learning the business of type-setting in all its branches.

More than once he has told me that during the years of his apprenticeship he spent all his spare time in study and reading. He thus early formed the habit of wide, thoughtful and discriminating reading, which practice he maintained throughout his life.

At twenty-one he left his father's office and went to Charleston, West Virginia, where he spent a year working in a printing office. Later he worked in the office of the *Missouri Republican* at St. Louis.

In 1854, at twenty-four years of age, he went to Sullivan and there established a county paper known as the *Sullivan Democrat*, which he owned, edited and controlled during the forty-two years that intervened to the time of his death. At first he had no assistance, but edited the paper, set the type and did the press work himself, working from day break till late at night to accomplish this. Through his energy and perseverance the *Sullivan Democrat* came to be recognized as one of the leading and influential county papers of the State.

Mr. Briggs was a prominent Oddfellow and has been for more than thirty years a leading and devoted member of the Presbyterian church.

In 1867 he was elected auditor of Sullivan county, which office he filled with credit to himself and with satisfaction to the people.

It was as trustee of this institution that many of you knew him and that I knew him best. I became a member of the faculty of the State Normal School in June, 1876, and a few months later, I think early in January, 1877, Governor Williams first appointed Mr. Briggs to membership on the Normal School Board. The first meeting which he attended was held January 19, 1877. He was re-appointed successively by Governors Porter, Gray, Hovey and Matthews. He was, therefore, a trustee without interruption from the date of his appointment to his death—a period of nearly twenty years.

My acquaintance with Mr. Briggs dates from the meeting referred to—January 19, 1877. I remember distinctly the cordial greeting which he gave me as a young teacher and as the latest accession to the Normal School faculty. I met him frequently after this, and our acquaintance deepened year after year into the most cordial friendship. I soon found that his kindly face and simple manners, which impressed me at first meeting, were the true index of a sincere, genuine, honest nature. Murray Briggs was an honest man.

He was deeply interested in the Normal School.

He believed in the school and in the validity of its work. He believed that the common schools of the State were to be the chief bulwark and safeguards of our institutions, and that they could fulfill this high end only as they were taught by competent, trained teachers. He, therefore, saw and felt the logical and the practical necessity for a school supported by the State for the training of teachers to teach in the State's public schools. He rarely missed a meeting of the Board of Trustees, and was always ready to give the most patient and thorough attention to the interests of the school and to the cause of education generally. Not to have his sound judgment, sweet spirit, and helpful counsel in the future is a distinct loss to this institution.

Soon after his appointment as trustee he was elected president of the Board, a position to which he has been reelected every successive two years, thus holding this responsible office for nine terms. As president of the Board, he was temperate, judicial and conservative. He believed that the Normal School should be held strictly to its purpose as defined by the statute that created it—"to prepare teachers for teaching in the common schools of Indiana"—and he was firm in the stand that it should be conducted with the greatest economy consistent with thoroughness and efficiency in its work. When the Board meets a few days hence, it will be hard to realize that the familiar figure and subdued voice of its honored president are not present, and that they will be seen and heard no more on earth.

Mr. Briggs was a man of singular piety and religious devotion. Some months ago I read an article in a popular magazine entitled, "Is Christianity a Failure?" The writer took the position that the world had not yet given it a trial. To what extent this is true of the Christian world, as a whole, I do not know; but I do not believe it would apply to the case of Murray Briggs. He believed in Christianity and he tried to exemplify its principles in his daily life. He had the most implicit and unwavering faith in God, Jesus Christ and a future life. As we returned from the funeral of Dr. Spann two years ago, he talked at length with me on these subjects. He then felt that he would not live to serve out the term of his appointment, and so expressed himself. But he said that he had tried to live an upright, Christian life, and was ready to render his account whenever it might please his Master to require it. The summons came to him last Friday night and in the consciousness of a life rectitude before God and the world, he answered with unfaltering faith and courage the call which sooner or later must come to us all.

If, as we all believe,

"No life

Can be pure in its purpose and strong in its strife
And all life not be purer and stronger thereby."

surely the world has been made better by the strong, earnest convictions, the lofty aims, the pure purposes and the upright life of Murray Briggs.

BOOK REVIEWS.

ESSAYS ON EDUCATIONAL REFORMERS. By Robert Herbert Quick. Syracuse, N. Y.: C. W. Bardeen, 420 pages, cloth. Price \$1.00.

This new edition of the *Educational Reformers*, issued by Mr. Bardeen, is a great improvement over the previous ones and is a first class specimen of book making in every particular. At this late day, after the teaching profession has accepted Mr. Quick's book as a classic, no comments upon his work are needed. This edition, we understand, has been prepared especially for the Ohio State Teacher's Reading Circle. It is a careful reprint of the original London edition and has a great deal of new matter added, including Mr. Quick's pedagogical biography, an article on Froebel written by Mr. Quick for the *Encyclopedia Britannica*, a great number of illustrations and portraits, translations of all the quotations from foreign languages in the book and other matter for the benefit of the reader. Every teacher ought to have this book in his library.

THE WERNER GEOGRAPHIES. The *Werner Introductory Geography*. Price 55 cents. The *Werner Grammar School Geography*. \$1.40. By Horace S. Tarbell. New York, Chicago and Boston: Werner School Book Co.

The fact that these books have been prepared under the direction of Superintendent Tarbell of Providence, R. I., is a strong assurance that they proceed along sound pedagogical lines. This, however, is not all that teachers and students have a right to demand. The enormous growth of physical and natural science has almost revolutionized geography in the last fifty years, and the scientific geography of to-day is a very different thing from the geography of Ritter and Guyot, in the relatively greater development of its physical side. The center of gravity has shifted quite over from the human to the non-human portion. The relation of physical environment to man is still the most important single relation in geography, but so far from being the only relation, it is but one of a score, the last rather than the first.

In the universities and schools of higher learning, geography is developed from its physical side toward the human, and this reversal of point of view, the outlook from the mineral world toward man instead of from man toward the mineral, is

slowly making its way downward to the common schools. Hence, the best text-book of geography can no longer be written by a successful teacher unless he is also a trained scientific geographer. Such a combination being rare, the best results will come from the collaboration of a great teacher and a great geographer.

The *Werner geographies* are a very substantial advance beyond the ordinary text-book along the line of "the new geography." Most of the stock fallacies which have been perpetrated by a long line of unscientific book makers are avoided. At the outset the idea is very clearly set forth that "almost all narrow valleys have been made by the streams which run through them." The central idea of the geography of the land is the effect of rain-water upon it—erosion, formation of soil, development of relief forms and drainage systems—the common starting point of geology and geography, a subject which can be taught by observation in the field in almost every school district, and which, for these reasons, deserves a much fuller treatment than any school text-book has yet given it. The principle laid down in the preface that "relief is not in itself of sufficient importance to the pupil to demand much of his time" would be disputed by every modern scientific geographer. In this respect Mr. Tarbell's practice is often better than his preaching; for he has given us in his grammar school text, the first, we will not say adequate, but serious treatment of glacial drift in any common school text-book. No one geological event or geographical feature has had more far-reaching consequences or has been more persistently neglected. The author struggles as usual with the concepts, hill, mountain, range, etc., with more than usual success. His text and pictures, however, come dangerously near to giving the child the idea of a range as a row of separate mountains with ridiculously steep slopes. The only possibility of success lies in abandoning the old superficial notions based on form only, and in introducing the idea of structure and origin. A hill then becomes a form *cut out* from a more extensive elevation, and easily illustrated on the molding board, or by carving a potato; a detached mountain or peak becomes either a large hill or a pile of volcanic material; a range becomes a fold, or a tilted block of the earth's crust, or the cut edge of a plateau. There is no reason in the world why these ideas should not be given to children old enough to study geography from a book.

The introductory book is very happy in its method of repeatedly presenting a picture and a map of the same feature. Most students are weak in the ability to see anything more in a map than

a colored patch. Great stress is laid upon climate, the treatment of which is, in the main, satisfactory; yet, the book is not free from such old errors as "when cold air strikes the warm clouds, rain-drops are formed," "the wind is *drawn* toward the bonfire." The pictures of relief models of the grand divisions are taken from originals in which the elevations were exaggerated to the ridiculous and almost criminal extreme now practiced, for what reason it is difficult to conceive, by many model makers. This exaggeration is less harmful in the picture than in the model itself. The illustrations and maps are well selected and executed. The picture of Mt. Rainier, page 101, showing a slope of about fifty-five degrees, is one which a scientific geographer would never have permitted to slip in.

In the Grammar School book we have a new departure, in that the text is published in one octavo volume of convenient size and the maps and pictures are gathered in another quarto volume. While this plan has evident advantages, its value must be determined by the test of experience. When students are so apt to fail to see a picture or map on the same page with the text, special care must be taken by the teacher to compel them to use those in another volume. The most important facts under each head are clearly stated, but without much attempt to explain their causes. This may be wise in the case of such difficult subjects as tides, ocean currents and rainfall; but the less often a book leads the pupil to ask the question, "why?" the less does it take him out of the world of memorizing into the world of observation and reasoning. It would be easy to make the questions appended to the various sections something more than "review questions," to ask questions which would set the pupil to thinking about the facts just stated. The numerous references to standard literature upon each topic meet a long felt want and form one of the most valuable features of the book. The first, or "introductory," part of the book, occupies fifty pages and is followed by the "descriptive" part of two hundred and fifty. In this the book is in strong contrast with the ordinary meagre, poverty-stricken text. The treatment is probably as full as an ordinary class can handle and is especially rich in commercial and industrial geography. Among other topics discussed which belong to a more broad and rational treatment of geography, are the growth of cities and geographical influences affecting American history. Following the description of each of the principal countries of the earth is a note giving a brief summary of its history. The third part of the book, called "general and comparative," is apparently an

afterthought. It treats such subjects as plains and valleys, lakes and rivers, coasts and shores, islands and continents, from the point of view of their structure and origin, and hence belongs at the beginning of geography instead of at the end. The plan is scientific and the execution, in almost every respect, abreast with the progress of science. The discussion of climate is not so happy. The region between 30° and 60° is called the zone of variable winds instead of prevailing westerlies, and no hint is given of the controlling influence of temperate cyclones upon weather. No better reason is given for the condensation in a rising current than that it enters cooler air; and the worn out fallacy, which seems to have more lives than a cat, of the lagging behind or throwing ahead of air and ocean currents by the rotation of the earth, appears in all its original vigor.

The second volume of the Grammar School geography contains more than fifty pages of maps, physical, political, and commercial, upon an unusually large scale and excellent in clearness and accuracy; and ninety pages of pictures grouped under numerous heads, as homes, burial places, cathedrals, monuments, modes of transportation, bridges, and the various countries. The whole number of different illustrations is about 1300, judiciously selected and covering the whole range of geography. The pictures are generally clear but lack something in artistic execution. To the teacher who knows how to use them this collection will prove a perfect treasure house; to the child a source of endless entertainment and instruction. A full pronouncing dictionary of geographical names is appended.

About a year ago it was our privilege to review a book which marked an epoch in the history of the teaching of geography; a book which at once put out of date, and out of countenance, the old-fashioned text-book. With equal satisfaction, we now introduce to our readers a worthy successor, in what we believe will be a long line of geographies, pedagogically sound in plan, scientific in execution, and rich in textual and illustrative material. Such books are advancing rapidly our progress toward the new, scientific, and rational geography, and among them the Werner books will take a place in the front rank. C. R. D.

Doctor Oscar Chrisman of Gosport, is to succeed Professor W. H. Johnson of the Kansas State Normal School, who resigns to accept a position in the Helena, Montana, High School. Doctor Christman is a graduate of the Indiana State Normal School and State University and has studied extensively in Germany.

INDIANA STATE BOARD QUESTIONS FOR
SEPTEMBER, WITH DISCUSSIONS.

ARITHMETIC.

1. At what period in a child's school life would you introduce the subject of U. S. money? Show how you would make the application of fundamental rules to U. S. money.
2. What advantage in arithmetical work is found in the introduction of bills? Show your view by using a concrete example, and discussing it.
3. Show how a pupil may be led to comprehend clearly the definitions of (a) square, (b) rectangle, (c) triangle and (d) circle.
4. What advantage is found in concrete problems over abstract?
5. For what sum must a note be drawn at 4 months that the proceeds of it when discounted at a bank at 7 per cent. shall be \$875.50?
6. What must be the dimensions of a cubical box to hold 2,000 gallons?
7. A merchant holds two notes against a customer—one for \$243.16 due May 6, 1896, and the other for \$178.64 due September 25, 1896. How much cash will cancel both notes October 11, 1896, money being worth 8 per cent.
8. James H. Smart buys a bill of merchandise at cash price, to the amount of \$1,486.90, and gives in payment his note at 4 months, at $7\frac{1}{2}$ per cent. Find face of note.
9. The sides of two squares are 5 feet and 10 feet, respectively. How do they compare in area? In perimeter?

1. The subject of United States money should be introduced at the end of the first, or at the beginning of the second year in so far as its tables and their unit relations are a part of the subject. It should be dealt with, occasionally, from that on until the pupil has finished it in its fractional relations, and then it should be dropped as a subject in itself.

2. The advantage of bills on arithmetical work is that they furnish concrete examples for thought, and they can be made to furnish the pupil with good ideas as to the relative prices of different articles, the real value of each, and the units by which the different articles are measured; e. g.,

TERRE HAUTE, IND., Sept. 29, 1896.

Mr. R. B. Wilson,

Marion, Ind.:

Bought of H. Hulman & Co.

50 lbs. Granulated Sugar . . .	@ 5c.	
75 lbs. Light Brown Sugar . . .	@ $4\frac{1}{2}$ c.	
40 lbs. Coffee	@ 22c.	
5 bbls. Salt	@ \$1.03	

In a bill of this kind, if the teacher is careful in preparing it, the pupil can see the relative and exact values of sugars, coffees, and salt. He may also see that these articles are measured in lbs. and bbls. By varying the bills he will see some articles are measured by the yard, some by the dozen, etc.

3. In any of the four the child should not be

taught the definition as a definition. *a.* In teaching the idea square it is best to have several square figures before him; in discussing each square, in some way have him see that the angles are all equal and that the sides are all equal. When he has examined all the samples, if he does not know they are squares (and he likely will know it) tell him they are squares and ask him to describe them. In this description he will define a square. See that it is organized correctly and it becomes a formal definition. A formal definition only serves to organize the thought, anyhow.

b. Pursue the same course with the rectangle; having the pupil see that the opposite sides and all the angles must be equal.

c. In the triangle he must see that the distinctive mark is three sides or three angles.

d. In the circle he must see that the characteristic is, that it is bounded by a *curve* line, and that every point in this line is the same distance from another point within the figure which we call the center.

4. Concrete problems have an advantage over abstract ones in that they give a child some definite things with which to connect his number ideas (and number ideas have their origin in the multiplicity of objects), thus giving him real things as the basis for his reasoning; besides, they prepare the child for the very thing he is going to meet in after life; viz., the concrete application of mathematical principles.

5. A note of \$1.00 discounted @ 7% for 4 months (and 3 days of grace) would yield a proceeds of \$.976+. Then face of a note to yield \$875.50 proceeds would be \$896.95 (\$875.50+., \$.976+).

6. The side of a cubical box which holds 2,000 gallons is found by first finding the number of cubic inches in the box, which is 462,000, ($2,000 \times 231$); then, by taking the cube root of 462,000 cubic inches, we have the side of the box in inches, which is 77+ inches or 6 feet 5+ inches.

7. If money is worth 8% it will take \$243.16 plus the interest on \$243.16 from May 6, 1896, to October 11, 1896, at 8% to pay the note of \$243.16. This would be \$251.54. It will take \$178.64 plus the interest on \$178.64 from September 25, 1896 to October 11, 1896, at 8% to pay the note of \$178.64. This would be \$179.28. For the two notes it will take \$251.54 + \$179.28, which is \$430.82.

8. The face of the note is the principal plus the interest. The interest on \$1,486.90 for 4 months at $7\frac{1}{2}$ % is \$37.18. Then the face of the note is \$1,486.90 + \$37.18 or \$1,524.08.

9. They are in area as 1 is to 4, and in perimeter as 1 is to 2.

SCIENCE OF EDUCATION.

(Any five.)

1. In teaching geography how would the principle of apperception be called into use?
2. Show how you would employ the principle of apperception in teaching history.
3. Under what circumstances may a new idea entering the mind cause an important readjustment of the existing body of ideas?
4. What is meant by the threshold of consciousness?
5. On what conditions does the permanency of knowledge depend?
6. When we say that there is an order of logical dependence among the topics that constitute a subject, what do we mean?
7. What results from a violation of this order in teaching the subject?
8. If one were studying physiology, what would be the advantages of having an actual human skeleton over the representations of this in the book?

1. Any new presentation in geography should be based upon the child's past experience, or upon what the child is at the time of the presentation. The child can interpret only in the light of what he is. If he is to be taught mountain, or continent, or peninsula, there must be something in him which he can bring to the presentation, and his interpretation will depend upon what he brings.

2. What is true of geography is true of history and every other subject. All that the child knows of the times and conditions, the manners and customs of the people, will be brought to bear upon any historical presentation, and aid in its interpretation. So the principle of apperception would demand a logical presentation of the subject.

3. The close relation of all ideas would cause an adjustment of the existing body of ideas. New data are continually changing our notions. In a measure, the whole mass of mental content is changed with the advent of any new idea, just as the mind is changed with each experience. If the new idea were in entire antithesis to existing notions the new adjustment might be radical.

4. The term is Herbartian. It is the dividing line between the abiding self and the transient self; between the self considered as an organized structure, and the self at any particular moment dwelling upon some particular idea. The idea in consciousness has been reacted from the organized self and has been brought across the threshold. Before any relation can be established between the new presentation and the old experience, the old and the new must both be brought into consciousness.

5. The permanency of knowledge depends upon the degree in which the content of observation is assimilated; upon the degree in which all experience in thinking is crystallized into principles; such assimilation of knowledge and crystallization of principles lay the ground work for

independent thinking, the force of which is cumulative. Knowledge must be used if it is abiding.

6. We mean that a subject must be looked at as a development of a certain line of thought, in which the topics which constitute it are so closely related that the study of one throws light upon the next in order.

7. That the subject will not be taught at all, but merely some isolated facts of the subject will become mental ballast.

8. The advantages of an actual skeleton over a mere picture in teaching are these:—

- a. An actual skeleton makes a more lasting and more defined impression on the mind than a mere picture of the same.
- b. A skeleton will permit its examination from many points of view, and so serve at once as well as many dozens of pictures taken from different views.
- c. Unless a picture is true to nature, in point of size and color, which it practically never is, the observer is always at a loss to estimate that disturbing factor.
- d. A picture does not permit of detailed handling of the thing in question, and, being a fixed image only, it cannot be studied piece-meal like an actual movable skeleton.

READING.

1. Show how a knowledge of the words *dear, bread, till, know, home* and *useless* will help the members of a second reader class to learn, without help from any one, the words *near, spread, killed, row* and *homeless*.
2. "The expressing of the thought is a secondary matter; if the thought is fully comprehended the oral expression of it is comparatively easy." Discuss this statement.
3. If the above statement is true, what criticism would you make on the teacher who has the pupils "stand and read" as the first step with a new lesson?
4. What is "the construction of a picture" in reading? Is this work important? Why?
5. Mention three essential elements which must enter into a literary gem suited to second and third grade pupils.
6. Some school readers are made up with *short selections* from masterpieces; others from a few *complete masterpieces*; which do you prefer? Why?

1. It will be noticed that only one new sound is necessary in most of the cases given, in order to pass to the new word.

2. The principle stated is, that if the thought of a selection is clear the oral expression will follow as a matter of course. It is certainly true, that no intelligent expression can be given of that which is not clearly understood.

3. The teacher who follows the plan suggested begins at the wrong end of the process. The first thing will be to discuss the meaning of the selection with the class; or at any rate, give them the opportunity of making a careful study of the lesson before asking for its oral interpretation.

4. *The clear seeing of the imagined scene or succession of events which form the embodiment of the writer's meaning. Because "the picture" is the author's means of expressing himself, it is absolutely necessary that the reader construct it completely.

5. (a) Valuable content or meaning.
- (b) Interesting story or embodiment.
- (c) Simplicity of expression.

6. In a course of complete masterpieces greater unity of effect must result. Greater interest is aroused, the author's full meaning is certainly clearer, and the general result is certainly more satisfactory than can be obtained from selections, however well made. The main point in favor of selections is that a much wider variety can be secured.

GEOGRAPHY.

(Any seven.)

1. Why should the study of geography be prosecuted with direct reference to the earth being the home of man?
2. How does the tendency of water to occupy greater space when frozen assist the efforts of agriculturists in cold countries?
3. Why should the tendency of migration in the United States be northwestwardly?
4. What influence upon the growth of Canada has the fact had that it controls the entire outlet of the Great Lakes through the St. Lawrence river?
5. How can you account for the fact that the three largest seaports of the world are upon otherwise unimportant rivers?
6. Are there any geographical reasons why the present condition of Turkey should, by the other European powers, be allowed to continue? Name them.
7. Name three mineral products of Pennsylvania, and show how they have promoted the wonderful prosperity of that State.
8. Both Venice and Holland have many canals which serve as highways; how do you account for the different characteristics of the inhabitants of the two countries?

1. It should not. The relation of man to his physical environment is an important geographical relation, but not the only one. Geography is the science of the mutual relations in space of relief, climate and life. See *INLAND EDUCATOR*, Vol. I, p. 234. Vol. II, p. 95.

2. Freezing crumbles rock into soil and crumbles compacted soil into a loose mass.

3. The latitude and climate from which most of the migrants come, the absence of forests in the prairie regions, the fitness of soil and climate for speedy and abundant crops of corn and wheat, the absence of negro population and labor, are some of the influences which favor a northwestward movement.

4. It has increased the population of the lower St. Lawrence Basin and promoted the growth of cities like Toronto and Montreal.

5. London is situated in the center of the land mass of the globe, upon an estuary facing the Old World and accessible from the New, in the midst

of a small island abundantly supplied with iron and coal. Liverpool has a similar situation, except that it faces the New World, and is nearer the great manufacturing centers. New York has the best harbor on the Atlantic coast of America, is near to Europe, and has easy communication with the interior through the Hudson-Mohawk Valley and the Great Lakes.

6. The position of Turkey commands the trade of the Black and Mediterranean Seas of Europe and Asia Minor. As long as it is held by the Sultan, no great European power can secure that advantage over the rest.

7. Iron, coal and petroleum have made Pennsylvania a great mining and manufacturing State.

8. The fact of canals does not have a controlling influence upon the character of the people. That is largely determined in this instance by hereditary race peculiarities.

GRAMMAR.

(Any eight not omitting 9 and 10.)

"Ay, call it holy ground,
The soil where first they trod:
They left unstained what there they found;—
Freedom to worship God."

1. Select the subordinate clauses and state how each is used.
2. State the entire subject of each principal clause.
3. How are "unstained" and "there" used?
4. What is the case of "soil?" of "freedom?"
5. How is the infinitive used in the above sentence?
6. What does tense mean? What thought is implied by the name of each tense?
7. Give two examples in which the name of the tense does not express the time thought.
8. Explain the person and number of the verb.
9. Write a business letter.
10. How would you attempt to correct the errors in the language of your pupils?

1. "Where first they trod," is an adjective clause modifying the word, "soil." "What there they found freedom to worship God," is a substantive clause, used as a direct objective modifier of the word, "left."

2. The subject of the first principal clause is the word, "you," understood; the subject of the second, is the word, "they."

3. The word, "unstained," is an adverbial modifier of the verb, "left," expressing the adverbial idea of manner. The word, "there," is an adverbial modifier of the verb, "found," expressing the adverbial idea of place.

4. The word, "soil," is objective case. It is an appositive modifier of the word, "ground." The word, "freedom," is in the objective case. It is an appositive modifier of the word, "what."

5. The infinitive, "to worship," is used as an adjective modifier of the word, "freedom."

6. Tense is that property of the verb which denotes the time of the relation existing between thought subject and thought predicate. "

name of each tense implies the relation between tense and the three periods of time—present, past, and future.

7. The Rev. James Smith preaches to-night. He writes for THE INLAND EDUCATOR.

8. Person and number are changes which the form of the verb undergoes to mark its agreement with its subject.

9. See any good language book or letter-writer.

10. First, watch their language carefully in all their work, in arithmetic, history, reading, etc., as well as in language and grammar. When a child makes a mistake, give him the correct expression for his incorrect one, and have him repeat it. When children have been corrected repeatedly, they may be stopped and asked to give the correct expression for the incorrect one which they have used.

Second, plan work which will give the child an opportunity to make all the mistakes which he is in the habit of making, being careful to correct all the mistakes which he makes.

PHYSIOLOGY.

(Any five.)

1. Define hygiene.
2. Describe the dermis.
3. What are the functions of the auditory ossicles and the tympanum?
4. What is the function of the cornea?
5. What are the organs of touch and how are they distributed over the body?
6. What is a reflex centre?
7. What is the germ theory of disease?
8. Under what circumstances and in what quantities can alcohol be administered in safety?

1. Hygiene is that science which seeks to discover, and later how to apply, the laws governing the health of the body.

2. The dermis is the lower portion of the skin, and is in contradistinction to the epidermis which is composed of cells entirely. The dermis is almost wholly fibrous, being composed of a meshwork of connective tissue fibres. In this meshwork blood vessels and nerves take their course. Touch corpuscles are generally present. Muscle fibres are also plentiful, especially where hair follicles are numerous. Associated with the hair follicles are also oil glands, which, though epidermal, lie imbedded in the dermis. Often goodly amounts of adipose tissue are imbedded in the dermal meshwork. The fibrous nature of the dermis is very apparent on examining most ordinary leather, where the numerous tanned connective tissue fibres are visible easily to the unaided eye.

3. The functions of the tympanum or middle ear are:

1. To act in some degree as a resonator and strengthen the sounds reaching it.

2. To afford a place in which the atmospheric pressure on the outside of the tympanic membrane may be equalized. This is accomplished by having the tympanum connected with the outside air by means of the eustachian tube.

The function of the auditory ossicle is to carry the vibrations of the tympanic membrane across the tympanum, through the foramen ovale leading into the inner ear, and so setting the lymph of the inner ear in corresponding vibrations.

4. The functions of the cornea are:

1. To serve as a single convex lens, and so help in bringing the rays of light to a focus on the retina.

2. As part of the sclerotic coat it serves to protect the globe of the eye.

5. There are three kinds of organs of touch, mainly:

1. The touch corpuscles. These consist of a connective tissue capsule, in which lies a core into which a nerve fibre seems to run and end. These corpuscles are imbedded in the dermis.

2. The touch cells. These seem under the microscope nothing more than very large *epidermis* cells, but they stain more deeply and a nerve fibre seems to end either directly in them or closely around them.

3. The touch flexuses. These are nothing more than the terminal network into which the sensory fibres finally subdivide. This network consisting of the minutest divisions of the nerves and the fibrils lying in closest proximity; they are able to carry sensations from nearly every point to which they are distributed. These flexuses occur in the skin. The cornea is also well supplied.

4. The Pacinian corpuscles. These are larger corpuscles than the ordinary touch corpuscles of the skin; are found easily by examining the mesentery of an animal.

6. A reflex centre is a nerve cell, or usually a collection of nerve cells, which upon the receipt of sensory impressions originate related motor impulses.

7. The germ theory of disease is that theory which attempts to explain most forms of contagious and infectious diseases as results of certain minute germs called bacteria, growing in the body; which bacteria by their own depredations or by poisons which they form, induce the disease in question. This theory is now so well substantiated in numerous diseases that it has ceased to be a mere theory.

8. There is a wide difference of opinion among men who ought to know, whether or no alcohol can ever be administered safely. The number who hold that it may be so administered at times,

use alcohol in stimulating the system to tide over critical instances, and so, by artificially rallying the system for some time, save it from being entirely overcome in these trying periods.

HISTORY.

(Any five.)

1. "The change, the movement, the progress which occurs in the life of a people is that people's history."—Kemp. Discuss the above.
2. In primary grades can the children be led gradually to see and feel the history which they study? Illustrate.
3. What is meant by "the unity idea" and the "epoch idea" in history? Illustrate.
4. Discuss "the relation of geography to the movement in history."
5. Show how primary history work may form a basis for language work.
6. Discuss the value of history in the development of moral character.

1. The essential nature of history is a change in the mental and moral condition of a people. If there were no change or progress, *i. e.*, if they stood perfectly still, a people, or race would have no history. When we speak of the history of America for example, we mean that the American people have throughout their three centuries of life been progressing from poor roads to better ones; from narrow, bigoted religious ideas to broad, liberal ones; from selfish, local political ideas, to broad, national ones; from almost no literature, to a good rich one; from burning harmless people as witches, to absolutely disbelieving in witches; from being satisfied with tallow candles, to a cheaper and better gas or electric light. This progressive movement toward higher, better, freer thought and feeling is shown from time to time in freer institutions; *i. e.*, in freer schools, churches, libraries, voting, press, speech; better books, roads, sanitary conditions, government; and all in all in a higher level in the moral tone and energy of society in general.

2. In primary grades children will be led to see and feel the historic movement which they study, by taking into their own lives through story and biography, and poem, and picture, the essential spirit of the people or time under consideration. The pupil who follows Leonidas through one victory, only to follow him through another, and another, will see and feel the warlike spirit of the Spartan; but in the story of Aristides or Pericles he would see and feel a very different Athenian character. In the story of the chivalrous Knight of the Middle Age, he would see a different spirit in many particulars from what he would see in the stories of Egypt or Greece or Rome. It is only as the pupil is led to see and feel these times by placing himself in the place of these people that he understands their history. And he will, of course, at first see the simpler life of the people under consideration—

but from grade to grade he will be able to obtain broader and broader views of the cause and effect and motive of historic movement.

3. By the "unity idea" in history is meant that the whole historic movement of the human race from its beginning to the present time is essentially one unbroken current of life; just as the Mississippi River, for example, from source to mouth is one unbroken stream. By the "unity idea" in American history, for further illustration, would be meant that the American spirit—the American way of feeling and thinking about schools and government, and social ranks and the like has been gradually and uninterruptedly growing to be what it is for hundreds of years; that there is no great break in this growth, but that each generation builds a little new thought and life to the whole American thought and life which had gone before.

By the "epoch idea" in history is meant the period of time in this general movement during which some great overshadowing thought and feeling is so powerful as to color the life of the people under consideration; *i. e.*, it may be so strong as to enter into their whole set of institutions and affect their religion, government, morals, social habits, art, philosophy and business. In American history, the two most general epochs may be described as the epoch of local life—1607 to about 1787—and the epoch of national life—1787 to the present time.

4. Geography has a very close relation to the movement in history. It affects it directly, by affecting the bodily strength and vigor of men, as well as their mental vigor; it greatly affects it indirectly through the occupations which geographical features lead a people to engage in. For example, some people must remain essentially an agricultural people because of having no coal, and little water-power; other peoples may become both agricultural and manufacturing. Still others may be so situated as to be manufacturing, mining, agricultural and commercial. These various occupations greatly influence the social and political thoughts of a people; they determine, in a large measure, the wealth of a people; and the wealth of a people greatly affects every phase of life.

5. It furnishes thought to be clothed in language.

6. History is constantly dealing with men in their struggles and triumphs, and failures. The student of history should be led to see that taking the whole course of historic movement, that that man, or idea or cause succeeds which follows unflinchingly the higher moral principle. Through this conception, every pupil should be led to

higher and stronger moral views of *his own duty* to assist in school, and church, and store, and at the ballot-box and in the family to advance this moral order to a little higher level than it had yet attained. Seeing, feeling, and acting according to the highest moral order, is the highest moral character.

ALCOHOL AND NARCOTICS.

1. Why should the use of light wine tend to the production of gout, and the stronger alcoholic drinks more especially attack the important organs of digestion?
2. How does the use of alcohol, in its earlier stages, tend to clog up the blood vessels, while its continued use almost destroys the power of coagulation in the blood?
3. Why should the constant use of alcohol tend to lessen the higher brain powers, and increase the merely animal one?
4. The experience of physicians seems to show that the evil effects of tobacco are more certainly hereditary than those of alcohol. Why should this be so?
5. What are the effect of opium and narcotics upon the circulatory system?

1. The light wines have such a small per cent. of alcohol diluted with such a large per cent. of water, that their effect on the digestive organs is comparatively slight. But as the alcohol has to pass through the kidneys and liver, it interferes with their action. As to the cause of the gout, the *Britannica* says: "As regards the pathology of the gout, all inquiry agrees in connecting it closely with an altered state of the blood, more particularly with the presence in that fluid in excessive amount of uric acid, and its subsequent deposition in the joints in the form urate of soda. Uric acid is formed in the system in the process of nutrition, and is excreted by the kidneys, the amount passing off by the urine being estimated at about eight grains daily. Whether the accumulation of urates in the blood be due to their excessive formation in the system as a result of derangement of the liver, or depends on the defective excreting power of the kidneys, is disputed. If inadequate exercise be combined with luxurious living, over-indulgence in animal food and rich dishes, and especially in alcoholic beverages, then the chief factors in the production of the disease are present. It seems quite probable that the over-indulgence in any form of alcohol will have very much the same effect in developing gout."

But the stronger alcoholic drinks, because they contain such a large per cent. of alcohol, attack the digestive organs immediately on being taken into them.

2. On the point of clogging up the blood vessels, Benjamin Ward Richardson says: "When alcohol enters the blood in large quantities it causes the corpuscles to adhere together in masses. The masses of corpuscles prove directly obstructive to the course of the blood in the

minute or hair-like vessels. If the alcohol be taken in very great excess, indeed, it causes in the blood coagulation of the plastic part or fibrine. The fibrine, under these circumstances, becomes solidified in the blood vessels, and the blood vessels so charged, stop the current of the blood."

On the second part of the question, Dr. Richardson further says: "But in most persons who indulge freely in alcohol, the blood is thin and easily flows from the blood vessels when they are wounded by a cut or tear. The alcohol, from its great affinity for water, induces those who drink it to imbibe water or watery fluids to an excess, rendering the fibrine unduly fluid. In fact, alcohol acts on the blood in somewhat the same manner as salt does, and gives a tendency to a disease in which the blood is so fluid that it may pour out of the small blood vessels at some points of the body without those vessels having been wounded mechanically."

3. Axel Gustafson says on the point involved in the third question: "Alcohol's direct action is an assault on the brain, whose highest functions it attacks with most severity, because the higher the function the more delicate and sensitive is the brain matter involved, and hence, more susceptible to injury." When the higher powers are deadened all restraint is removed and the animal passions have full sway.

4. One thing that points in this direction is the fact that the effects of tobacco are largely found in the nervous system, and nervous diseases are frequently transmitted to succeeding generations.

5. The heart beats faster, the arteries dilate and lose their elasticity, the capillaries dilate. Frequently the heart becomes fatty, flabby, and feeble. Often the arteries of alcoholic drinkers become lined with an earthy ingredient of the liquor, making them thicker and brittle, and liable to rupture.

LIBRARIES.

How can this flood of pernicious reading be stayed? It must be done, if done at all—in the expressive language of Dr. Chalmers—"by the expulsive power of a new affection." A purer current of thought at the fountain can alone wash the channels clean. For this purpose I know of no plan, as yet conceived by philanthropy, which promises to be so comprehensive and efficacious as the establishment of good libraries in all our school districts, open respectively to all the children in the State, and within half an hour's walk of any spot upon its surface.
—Horace Mann.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

PART II.—SPECIAL COUNTY INSTITUTE SUPPLEMENT.

COUNTY INSTITUTES.

INTRODUCTORY.

We have great pleasure in presenting in the following pages reports of a number of the County Institutes recently held in Indiana. The present season has been such a uniformly successful one in every particular, that we feel justified in giving it especial attention. In most cases the reports presented have been prepared by teachers of the county, and that fact accounts for the difference in form observed in the accounts. We regret that it is not possible to make the report complete, owing to failure to hear from some counties, and the receipt of others too late for publication. We append quite a list of personal notices that have come to our attention.

Crawford County, August 10.

The Crawford County Institute was held at Alton, August 10-15. J. H. Tomlin and J. W. Carr were the instructors. Their work, principally along the line of Method, was excellent. J. W. Carr delivered two evening lectures which were well received. J. H. Tomlin lectured, Friday morning, to a crowded house. One evening of the week was spent in an excursion on the grand old Ohio. Another evening was used by the common school graduates, who contested for a beautiful gold medal, the gift of County Superintendent J. R. Duffin. The medal was awarded to Miss Ottah Fullinwider. The institute was one of the best ever held in the county.

Fayette County, August 31.

The Fayette County Institute convened at Connorsville for its annual five-day session. The instructors were Professor Charman of Terre Haute, and Robert M. of Indianapolis. The work was on two lines—Method and Literature. The attendance

was larger than ever before, the enrollment being ninety-eight. When it is considered that there are only eighty-one teachers in the county, the institute appears very large in proportion to the number of actual teachers. There were two evening sessions, the first being a "social" on Monday evening, and the other, a lecture by President Swain, of the State University. State Superintendent Geeting was with us on Friday.

Union County, August 24.

The Union County Institute which was in session August 24-29, was fully up to the high standard of past years. Superintendent Osborne is to be commended for the excellent program which was carried out. The interest of the teachers was shown by the fact that every one in the county was enrolled. The work of the instructors, Professor J. A. Zeller and Dr. J. A. Woodburn, was thorough and efficient.

Perry County, August 3.

The Perry County Teachers' Institute was held at Tell City, August 3-7. The enrollment of teachers and those wanting to become teachers was 202; the average daily attendance of the same, 174. The average in 1891 was 82.5. We have reason to feel encouraged when we see the change. This increase in attendance is not due to a greater number of licensed teachers than we had in 1891, but to the influence of the teachers to bring their graduates and other pupils of the fifth grade to learn all they can, that they may prepare themselves for their chosen profession before they enter upon duty. Professor J. W. Carr and Mrs. E. E. Olcott were the instructors. Professor Carr's work was chiefly grammar and arithmetic. His work throughout was of great benefit to our teachers. Mrs. Olcott's work was altogether primary. She made use of a class of first year's pupils to show what can be done when the teacher's work is well planned. Professor Carr's new lecture, "A Musical Fantasy," deliv-

ered at the Turner Hall, was greatly praised by the more educated class of listeners. Professor Swain of the Indiana University, delivered his lecture, "A Plea For Higher Education," in the Odd Fellow's Hall, on Wednesday evening. The hall was crowded with an attentive audience. After this lecture the audience called loudly for Professor Carr's "One Hour Among the Hoosier Poets." To satisfy the teachers Mr. Carr gave several recitations. State Superintendent Geeting, Professor W. A. Bell, Superintendent Sinclair, and Superintendent Nourse were with us, and each of them gave an interesting talk before the institute. Superintendent George with Mayor Fenn and the Tell City School Board made arrangements to entertain the teachers by having bicycle races on Monday after the institute session. The Star Band gave a concert one evening, and the Mechanics' Band another. The strains of music by the Tell City Maennerchor helped to make the evening pleasant. Take it all in all, it was a pleasant, profitable time.

Lawrence County, The Lawrence County Institute for 1896 was held at Mitchell, beginning August 3. The instructors were E. B. Bryan and F. D. Churchill. The work was excellent. The teachers were attentive and expressed themselves highly pleased. President Swain of the State University, delivered a very interesting lecture on Tuesday evening. Professor Bryan lectured to a large and appreciative audience on Wednesday evening. On Thursday evening Professor Churchill gave some very interesting readings from Riley, which were well received. County Superintendent G. M. Norman, from his long experience in school work, knows what the teachers want, and spares no pains to please them. The teachers of Lawrence County are coming to the front.

Henry County, The regular instructors employed were Geo. W. Neet, Superintendent of Spiceland Academy, and W. L. Bryan of Bloomington. Mr. Neet's work was on Method, general and special. His talks were listened to with deep interest, and during the year will prove in the school-rooms of the county that they were valuable to the teachers. Mr. Bryan gave three series of talks on the following subjects: "Educational Ideals," "Child-Study and Pedagogy," and "The Culture of the Teacher." His scholarly earnestness deeply impressed the teachers and his work here marks an epoch, not only in the professional experience of our teachers but in their *lives* as well. On Monday evening occurred the county oratorical contest, in which a representative from each town-

ship participated. It proved the means of bringing more than five hundred of the school patrons from all sections of the county together. The winner was awarded the county gold medal. Mr. Bryan gave a fine discussion upon "The Holy Land" Tuesday evening, and again on Thursday evening in a scientific strain, on "Nervous Capital." These lectures were listened to with deep interest. Judge Ellison of Anderson, lectured Wednesday evening on his popular subject, "Kings and Queens." Altogether the work of the week was highly satisfactory and may not soon be surpassed in excellence.

Owen County, The institute convened at the High School Hall, Spencer, Ind., The regular instructors for the **August 10.** week were Miss Laura Frazee, Mrs. Carrie B. Adams, and W. W. Parsons. First-class instruction was given by Miss Frazee in language, primary history, primary geography, and literature for children. Mrs. Adams' work in music was an inspiration to the institute and an excellent drill in this line for the teachers. The result of her work will be felt in the schools through the introduction of this branch of study. President Parsons gave instruction in science of education and literature. His talks were very instructive and interesting. His talks in literature were from Shakespeare's *Tempest*. The attendance at the institute surpassed anything yet known here. Nearly 100 per cent. of the teachers heard every talk given. Many visitors attended, and before the week closed the hall would not seat all. President Swain of Indiana University, delivered a lecture on Dr. Kirkwood before the institute on Tuesday. Professor W. A. Bell addressed the institute on the subject of "Apperception" on Tuesday. State Superintendent Geeting addressed the institute on Wednesday, and while here met the County Board of Education. The Trustees were all present a part of the week. On Wednesday evening a social was given at the hall under the management of the teachers. Refreshments were served and a very interesting time was spent for two or three hours. The week's work as a whole was one of the most profitable yet had in Owen County.

Morgan County, The Morgan County Teachers' Institute which met at Martinsville, **August 17-21,** was the most helpful to the teachers of any ever held in the county. Professor W. W. Black of Paris, Ill., who did such excellent work for us last year in primary language and primary reading, continued those lines by taking up grammar and advanced reading this year, thus giving the teachers

in the two years much practical help along the lines of reading and language. On Thursday evening Professor Black lectured to a well-filled house on "Christ, the Teacher." Professor Geo. W. Neet of Spiceland, did excellent work in primary history and primary geography. Professor Neet is earnest and painstaking. His work will do much to give tone to the work in these subjects the coming year. Every teacher goes to his work feeling that he is able to do more and better work than ever before. The attendance was excellent from the first exercise to the last. We have 143 teachers in the schools of the county. The average attendance was about 165.

Dearborn County, The instructors in Dearborn County were Sanford Bell, Superintendent at Aurora, and Miss Charity Dye, of Indianapolis. **August 17.** Mr. Bell's work was principally upon the teaching of history and geography. He also gave four talks on school management, which were very practical and were enjoyed very much by the teachers. Mr. Bell is a forcible speaker, and is to be commended upon his clearness and the careful manner in which he brings his work before an institute. Miss Dye's work was on literature and composition. In four talks she discussed the novel, using *Silas Marner*, studied as a whole, as to purpose, as to method, and as to content. She also did some very excellent work in the study of the *Vision of Sir Launfal*, and the *Harvard Commemoration Ode*. Miss Dye's work in composition set forth the teaching of elementary forms of composition work; a discussion of the paragraph,—what it is, how a good paragraph is secured, and its necessity in the early stages of composition work. She also showed how the imagination was cultivated in composition work. Among the visitors at the institute were State Superintendent D. M. Geeting, W. B. Sinclair, F. D. Churchill, and the Brookville poet, Professor Bogart, each of whom gave short but helpful talks.

Madison County, The institute this year was held in the opera house at Elwood. **September 7.** The instructors were Professor D. W. Dennis of Earlham College, Dr. Andrew J. Stephenson of DePauw University, and Professor W. E. Henry of Franklin College. Professor Dennis lectured upon various phases of scientific work; Dr. Stephenson followed carefully the steps in our national development, and Professor Henry, in his work on English, discussed the purpose of English in the public schools, the essential facts in prose, and the essential facts in verse. There are 321 teachers employed in Madison County this year. Manson U.

Johnson is still County Superintendent, and keeps things moving all along the line.

Harrison County, The institute convened at Corydon. The enrollment was 195. The instructors were Professor Arnold **August 3.** Tompkins of Champaign Illinois, W. F. L. Sanders of Connersville, and E. S. Hallett of Corydon. Professor Tompkins' talks were upon the aims of education, the ethical relation of the individual to the world, and the universal law of method. Professor Sanders' talks were along the line of school management, and Professor Hallett's on geographical topics. Monday evening there was a social entertainment, Tuesday evening a musical entertainment, Wednesday a lecture by Professor Tompkins on "The Beautiful," and Thursday evening a county contest of district school graduates. Altogether it was a very successful institute in every particular.

Gibson County, The institute was held at Princeton. The instructors were Professor R. J. Aley of Bloomington, who **August 31.** did work along the line of mathematics; Professor Henry of Franklin, who did the work in English. Superintendent Peak of Princeton, and Superintendent Churchill of Oakland City, also gave some talks during the week. The musical feature of the program was one of especial merit and very pleasant to all present.

Allen County, The instructors were Miss Lelia Partridge, primary work; Dr. Chas. R. Dryer, science; President L. M. Sniff, school management, and arithmetic, and Professor Miles, music. G. F. Bass of Indianapolis, gave a talk upon the Reading Circle on Wednesday, and Professor Swain of Indiana University, lectured on Friday. The attendance was the largest in the history of the institute, and the work was very favorably received.

Fulton County, The instructors were Professor E. B. Bryan of Indianapolis, and Dr. T. J. Bassett of Greencastle. **September 7.** Professor Bryan devoted his time to the consideration of the individual in relation to his environment. Dr. Bassett discussed school management. The work was exceptionally well done, and served as a means of profitable entertainment to a large number of daily visitors from the ranks of school patrons. Trustees were present in a body on Thursday. Daily reports of each day's work in detail were published in daily papers for special purpose of review and discussion by teachers at first township institute. Monday evening there was a so-

cial reunion, Tuesday evening Dr. Bassett lectured on the "Necessity of Right Preparation for Life's Work," Wednesday evening Mrs. Calkins of South Bend, lectured on "Scientific Temperance." General opinion proclaims it the best institute of late years. About 130 active teachers were enrolled.

Tippecanoe County,
September 7. The instructors were Professor A. R. Charman of the State Normal School, and Mrs. E. E. Olcott. Professor Charman's work was along the line of psychology and methods, and Mrs. Olcott's along the line of primary work. Both were well received, and the institute was considered a success in every particular.

Daviess County,
August 10. The thirty-sixth annual session of the Daviess County Teachers' Institute met August 10, and was opened by singing America. Invocation by Reverend J. T. Hobson. The regular instructors were Mrs. Sarah E. Tarney-Campbell of Anderson, and Professor E. B. Bryan of Indianapolis. Mrs. Campbell devoted her time to instruction in primary work—busy work, geography, reading and spelling—presenting many helpful and practical suggestions. Professor Bryan's talks, while given on the more advanced phases of the school course, were unusually interesting and practical, and were given with such earnestness and such an evident desire to be helpful, that he received the closest attention of the teachers throughout the entire week. F. M. McConnell, Principal of the Plainville schools, gave some instructive lessons on the subject of grammar. The musical features of the program, under the direction of J. M. Black, Professor of music in the Washington and Oakland City schools, contributed greatly to the success of the institute and the enjoyment of those in attendance. Sessions were held on Monday, Tuesday, Wednesday, and Thursday evenings at 8 o'clock. Monday evening's session was in the nature of a reunion, and was devoted to social enjoyment. On Tuesday evening Hon. Eph. Inman, a prominent local attorney, lectured on "The Sphere of Genius." The lecture on Wednesday evening "The Preacher's Boy, or the Worst Boy in Town," by Rev. A. W. Conner of Bloomington, was one of the most humorous, interesting and instructive lectures ever given in Washington. An elocutionary program was rendered Thursday evening by the Misses Pearl Wood, Pearl Horral, and Stella Hoddinott, and Mr. J. Edward Muster. The enrollment during the institute was 285. The number of teachers employed in the county is 171. The institute was a success in every way, and much of its success

was due to the untiring energy of Professor W. A. Wallace, County Superintendent, who is striving to place Daviess County among the first counties of the State in educational interest and advancement.

Clay County,
August 31. The Clay County Institute was held in Clay City. The instructors were Dr. E. T. Nelson of Delaware, Ohio, and Miss Anna Logan of Westwood, Cincinnati, Ohio. Dr. Nelson gave work in the sciences, and Miss Logan in primary work and methods. The Doctor revolutionized many of the ideas heretofore held by the teachers concerning the physiology of the human body. His talks on physical geography were interesting in the extreme. Miss Logan was mistress of the situation, and proved herself to be one of the best instructors in primary work the institute has yet had. On Tuesday evening Miss Logan lectured on the subject of "Observation of Children as Applied to School Work." On Thursday evening Dr. Nelson lectured on the subject of "Left-handed People." The lectures were well attended, the church being crowded to its utmost capacity each evening. The average daily attendance was 185; 170 teachers are required to fill the schools of the county. The teachers of Clay County are alive and progressive and demand the best institute instructors to be had.

Fountain County,
September 7. The institute was held at Attica. The principal instructors were Doctor Eli F. Brown and Professor W. A. Millis. Doctor Sherman Davis was present on Thursday and Friday and gave a number of talks on hygiene. Professor Millis gave the series of lectures which he presented at Winona Assembly the past summer, at which place he was principal of the department of methods. Doctor Brown in his talks covered a wide range of subjects of general interest to the teacher. W. W. Pfrimmer gave one talk on poetry and one evening of recitations from his own productions. The enrollment was 125.

Jefferson County,
August 31. The institute convened at Madison with a good attendance. It kept increasing in numbers and interest during the week. The secretary enrolled 270 members, with an average attendance of 161. Professor Elmer E. Griffith of the State University, very ably discussed literature during the week. His talks were very entertaining as well as beneficial. He very clearly showed the development in the style and form of literary productions from Chaucer's time to the present. His work was very helpful, giving each one present a better idea of the subject of literature than he

had before. Professor Culver of Indianapolis, discussed two subjects during the week—school-room difficulties and history. On Monday night Professor Joseph Swain lectured in the high school building to the teachers. His subject, which was handled very ably, was "A Plea for Higher Education." On Tuesday night a social for the teachers was given at the high school building. All present enjoyed a pleasant evening.

St. Joseph County, The instructors were Professors J. B. Wisely and Francis M. Stalker of the State Normal School. **August 31.** Professor Stalker gave his attention to psychology and Professor Wisely to English work. The institute was a success in every particular, the enrollment being 252 with an average daily attendance of 211. 140 of the teachers were present every session. Two hundred thirty teachers are needed to fill the schools of the county, and under the lead of Superintendent John H. Barr, the schools are reaching a high degree of efficiency.

Jennings County, Jennings County Institute held **August 17-21.** The instructors were Jas. A. Woodburn of Indiana University, and Jas. E. Lough of Harvard. Professor Woodburn gave work in two days—history and civics, and Professor Lough did work in psychology. The work was interesting and instructive throughout, and the attendance was fully up to the average. Professor Louis D. Lachborn of Bluffton, was in attendance three days, and not only did he entertain highly with his excellent singing, but he gave some valuable instruction on the line of music in the public school. The common school commencement on Wednesday evening, and the township graded school commencement on Thursday evening of the session, were "drawing cards," and the attendance at either is estimated at from 600 to 800 persons. Jennings County teachers are wide awake and progressive, and their cheerful assistance makes any county teachers' meeting a success.

Warren County, The instructors for the institute were Dr. T. J. Bassett, Mrs. E. E. Olcott, and Professor A. F. Mitchell. **August 31.** Dr. Bassett's work was school management, method, etc. He lectured on Thursday evening upon "The Relation of Preparation to Success." Mrs. Olcott presented primary work very successfully. Her "Model Class" work was especially helpful to the teachers, as it presented the practical side of the work and not the theory entirely. Professor Mitchell did elementary science work. His presentation of the work was

very interesting. On Tuesday evening the public annual contest in declamation was given, being one of the best ever held in the county. State Superintendent Geeting attended the institute on Wednesday, and gave two very interesting talks. The institute is indebted to Superintendent Millis of the Attica schools, ex-Superintendent Frye of the Crawfordville schools, and Rev. J. T. Martin for interesting talks. The attendance was the best we have ever had, and the teachers seem to think that they can use the suggestions made to advantage to their schools. A majority of the Trustees were present on Wednesday and met Mr. Geeting, besides giving encouragement to the teachers by their presence.

DeKalb County, DeKalb held its institute in the fine new opera house in Auburn. **August 24.** It was one of the old-time enthusiastic educational awakenings of the county, and was considered by many to have excelled, in interest at least, any previous effort, while the instruction was well up with the high standard maintained in that county for a number of years. Mrs. Emma Mont. McRae of the chair of literature, Purdue University, and Professor Chas. O. Merica of the chair of history and economics at Lawrence University, Appleton, Wis., were the regular daily instructors. Mrs. McRae, in her usual pleasant and attractive manner, discussed the subject of literature; while Professor Merica, by his deep insight into the subject, and his simple yet exact language, explained and simplified the supposed abstruse principles of educational psychology. Professor Norman W. Jones, one of DeKalb's former boys, now of the chair of literature in the Southwestern University, Winfield, Kansas, was present the entire week, and on Thursday gave the institute a most valuable hour in interpreting and impersonating Shakespeare's *Hamlet*. Louis D. Eichhorn, Supervisor of music in the public schools of Logansport, was present three days, and while there had charge of the music. He also gave several very valuable talks on "Music in the Public Schools," and favored the institute with some of his excellent vocal solos. Besides an average daily attendance of over 165 teachers there were, as usual, 150 to 300 of the citizens of the town and county in constant attendance. This large attendance of citizens has for several years required the instructors to deviate largely from their usual professional work and give more of the culture side. In fact, the DeKalb County institutes do not aim at the academic, nor nearly so much at the professional as at the social and culture phase of public education. With this end paramount, the "Annual

Institute Lecture Course" is made a prominent and very popular feature, and the very best popular lectures and entertainments in the country have been secured this year. On Monday evening there was a very fine musical concert, consisting of piano, vocal, violin, cornet and guitar solos by musicians of culture, training and ability. Tuesday, Wednesday and Thursday evenings were filled by lecturers respectively as follows: The Rev. Miss Henrietta G. Moore of Springfield, O.; Rev. Dr. A. W. Lamar of Galveston, Texas; Jahu DeWitt Miller of Philadelphia, Pa. Superintendent C. M. Merica, who is now serving his fourteenth year, is, of course, the moving spirit; and to show their appreciation of his valuable work, the institute on Wednesday, while one of the trustees had Mr. Merica out of the room on important(?) business, quickly raised the money and purchased, and had Mrs. McRae, on his return, in one of her characteristic veins of humor and eloquence, present to him a valuable gold watch and chain.

Franklin County, August 10. The institute was held at Brookville, the instructors being Professor F. M. Stalker of the State Normal School, and Mrs. Emma Mont McRae of Purdue University. Professor Stalker's general subject was the theory of the school, while Mrs. McRae confined her work to the line of literature and language. Mrs. McRae also lectured on her recent trip to Europe. It was the intention to have some evening lectures during the week, but the electric plant of the city was disabled so that the city hall, where the lectures were to be held, could not be supplied with light. The institute was in every sense a successful one. The number of teachers employed in the county is 114. The number of paid enrollments reached 134. The average daily attendance was 126; the number neither tardy nor absent was 95. The per cent. of attendance, based on enrollment, was 94; and based on number of teachers employed, 110. Superintendent Senour is doing a great deal for the advancement of his schools, and is especially pushing with great success the Young People's Reading Circle work.

Wayne County, August 24. The institute was held in the assembly-room of the Richmond Business College. The average attendance for the week was about 200. The instructors were Professor W. R. Houghton, Miss Kittie Palmer, J. E. Lough and Margaret Dennis. The work was all well received. The work of Miss Dennis was based upon the Holy Grail. Professor Houghton's work was on history, opening exercises, and scientific temperance. Miss Palmer worked upon methods and English; Mr. Lough on psychology. Mr. W. S. Hiser gave some valuable hints on the subject of writing. Professor Houghton also lectured on "The Sleeping Flower."

Jackson County, August 10. The instructors were Dr. J. A. Woodburn, State University; Mrs. Kate Gilbert of Mitchell, and Mr. L. N. Fouts of Brownstown. Dr. Woodburn gave instructions in history and civics; Mrs. Gilbert, in the principles of teaching reading and English, and Mr. Fouts in mathe-

matics. The work was all of a high character and well received. On Tuesday evening there was an elocutionary entertainment by Bertha Frances Wolfe; on Wednesday evening, a lecture by Mrs. Gilbert on "Our Country," and on Thursday evening a lecture by Dr. Woodburn on "The Nickname in Politics." It was a very valuable session in every particular.

Martin County, August 24. The institute was held in the high school building at Shoals. Professor Eli F. Brown worked along the lines of child mind, reading for teachers, and literature for children. Professor E. F. Sutherland gave talks on scientific temperance and a variety of practical topics that present themselves to teachers. Professor Brown lectured on Tuesday evening on "Modern Heresies, and on Thursday evening Hon. Will Cumback gave his well-known lecture on the "Model Husband." The enrollment reached 170.

Washington County, August 24. Washington County held a large and profitable institute beginning August 24. E. D. Starbuck, U. G. Weatherly and Mrs. C. B. Adams were the regular instructors. H. A. Buerk, W. D. Chambers and E. S. Hallet, each, gave an exercise during the week. Assistant State Superintendent F. A. Cotton was present, and made an excellent talk on the Reading Circle work. Washington County is one of the leading counties of the State in this respect. Last year there were bought in the county more than 900 books in the Young People's Reading Circle alone. On Tuesday night U. G. Weatherly delivered an instructive and interesting lecture on "Witchcraft." Thursday night Geo. F. Bass delivered his lecture on "Gumption" to a good audience. The institute was held in the court room. The citizens as well as the teachers took a great interest in the work. It was the sentiment generally that the institute was the best ever held in the county. Only 155 teachers are required to fill the schools, yet 215 enrolled and paid the institute fees. This enrollment was much larger than last year's, which was larger than that of any previous year. Superintendent W. W. Cogswell has been doing good work and is an excellent man for the place. At the close of the institute a number of resolutions were passed, one of which favored a State license instead of a county license, thus equalizing wages.

Dubois County, August 3. The Dubois County Teachers' Institute convened at Jasper. The instructors were Sherman L. Davis, of the State University, Superintendent Thos. A. Mott of Richmond, Ind., and Professor E. F. Sutherland of Shoals, Ind. The institute was favored by addresses by State Superintendent Geeting, Professor Wm. B. Sinclair, President Yoder of Vincennes University, Hon. A. M. Sweeney of Indianapolis, W. A. Bell, of the *School Journal*, and many others. Dr. Davis gave talks on general education, theory of teaching, and science work. Superintendent Mott spoke on applied psychology, history and geography, history of civilization, language, and reading circle work. Professor Sutherland's work was on narcotics and music. He had entire charge of

the music of the institute. Three evening lectures were by Superintendent Mott on "The Child," by Dr. Davis on "German Student Life," and by Superintendent Geeting on "Higher Education in Indiana." Superintendent Geeting spent two days at the institute. There are one hundred thirty-one school-rooms in Dubois County. When the institute opened, one hundred sixty-four teachers had enrolled and paid their institute fee of seventy-five cents. The attendance often reached five hundred. Dubois County never had a better institute than that of 1896.

Spencer County, The Spencer County Institute was held August 24-28. The instructors were Mrs. Adelia R. Hornbrook, teacher of mathematics in Evansville High School; Mrs. Marguerette DeBruler, teacher of English, Manual Training School in Indianapolis; O. P. Foreman, Principal High School, Rockport. Mrs. Hornbrook's general subject was psychology as applied to mathematics. Mrs. DeBruler's lines were literature and primary geography. Mr. Foreman discussed language, grammar and history. Dr. J. P. D. John of Greencastle, delivered before the institute his discourse on "The Vision of the Invisible," and on one evening his lecture on "The Worth of a Man." The number of teachers to be employed in the county is 168; number of paid members of the institute 174, the largest in the history of the county. The teachers voted unanimously to increase the enrollment fee from 50 cents to 75 cents, and to use their individual effort to sustain the Y. P. R. C.

We expect an increased interest in all lines of school work this year

Montgomery County, One of the most profitable institutes in the history of this county was held at Crawfordsville. The August 24. instructors were Professor E. E. Griffith of the State University and Professor W. W. Black of Paris, Illinois. Professor Griffith devoted his entire time to the subject of English literature. He showed the relation of each of the literary periods to the others, and to the history of the country; that the real history of a country is to be found in its literature; that political and military movements are but the outward expression of inner, spiritual movements, and that these spiritual movements are reflected in the literature of the time. Professor Black gave his entire time to method, and its application in the teaching of history and geography. An outline of his work would require too much space, but the undivided attention which he received throughout, from more than 200 teachers, proved his value as an instructor. On Thursday afternoon Superintendent Pfirmer, the Kankakee poet, gave a short talk on "Poets and Poetry," and recited a number of his best poems. He was enthusiastically received. On Thursday evening at Y. M. C. A. Hall occurred the annual oratorical contest of the county graduates; there being one contestant from each of the eleven townships. Prizes to the amount of seventy-five dollars were distributed. The graduates are prepared for these contests by writing bi-monthly essays on subjects furnished by the superintendent in both the seventh and eighth years. The writing of these essays is one of the conditions of graduation. Another matter

that perhaps should be mentioned is the appointment of a committee by the superintendent to prepare monthly literary programs for the entire term, such programs to be largely of a patriotic character. These programs will be printed at the expense of the townships and supplied to the schools. Superintendent Zuck is to be congratulated on his success in providing so excellent an institute. His plan of having but two subjects in the course of instruction is to be commended, as the minds of the teachers are not dissipated so much that nothing finds a secure lodgement. There are 209 teachers employed in the county. The enrollment was 228.

Marshall County, The institute convened in the Y. M. C. A. hall at Plymouth, August 24. Superintendent S. S. Fish presiding, and Arley E. Wickizer as secretary. Michigan State Institute Director R. W. Putnam of Kalamazoo, Mich., and Professor Levi N. Fouts of Brownstown, Ind., did the work principally. Professor Putnam's work was mostly on the mind. However, he did some work in scientific temperance, which was also very interesting. Professor Fouts' work was mathematics, and general school management. He also conducted the music. Professor H. B. Brown of Valparaiso Normal, Professor W. H. Banta of Rochester Normal College, and Professor Michaels of the Logansport Business College, were present and participated in the exercises. Deputy State Superintendent Cotton was present on Tuesday and addressed the institute on points of great interest—points that should be submitted to our next legislature. Professor Putnam was asked to deliver his lecture on "Morals," which he did on Wednesday evening. The enrollment reached over 200. The expenses of the institute was about \$115.00, and the treasurer's report shows still on hand a net sum of \$127.33. Superintendent R. A. Chase was made chairman of the committee on selecting institute instructors for the next institute.

Lagrange and Noble Counties, These two counties held a joint institute at Island Park, Rome City. There were 295 teachers enrolled—160 in Noble County and 135 from Lagrange. The attendance much of the time was more than double the enrollment. The instructors were Professor A. W. Edson of Massachusetts, Professor Kinnaman of Danville, Ind., and Professor Miles of Ft. Wayne. The work of Professor Edson was along the lines of pedagogy and school management. In the development of his work in pedagogy, he used language work, including reading, as a basis. Professor Kinnaman considered number work and literary interpretation. His work was very practical and well received. In all, the institute was one long to be remembered by those in attendance. Professor Miles, who had charge of the music, was an important factor in the success of the institute. He did much in providing entertainment, as well as valuable instruction. Miss Long, who assisted him at the piano, rendered a number of solos and assisted in other ways towards the success of the institute. State Superintendent D. M. Geeting was in attendance Monday, greeting old acquaint-

ances and forming new ones. His talk to the teachers was highly appreciated by all. Rev. A. W. Lamar's lecture, "Dixie Before and During the War," pleased everybody. The place of holding the institute was so pleasant and the work so valuable that a very large majority of the teachers voted to hold it there next year.

Sullivan County, August 24. The Sullivan County Teachers' Institute was the largest and most enthusiastic ever held in the county. Two hundred ten teachers paid the enrollment fee. Mrs. A. Kate Gilbert discussed reading, language, arithmetic and school management, and lectured Tuesday evening. Professor A. R. Charman gave lessons on method and the practical application of the same to history and geography. He lectured on the "Evolution of a Human Being" on Tuesday evening. Wednesday evening a social was given and Deer's opera house was crowded. The Elite Mandolin Club and Joe S. Reed furnished the program. Dr. L. J. Aldrich, president of Union Christian College, lectured Thursday evening. Friday, State Superintendent Geeting was present and gave two excellent addresses. Superintendent Richard Park has the educational forces well in hand, and Sullivan County is making rapid progress all along the line.

Vigo County, August 31. The Vigo County Teachers' Institute was held in Normal Hall. The instructors were A. H. Yoder, president of Vincennes University; Miss Belle Thomas of the Chicago Normal School; Mrs. Carrie B. Adams of Terre Haute, and Dr. J. T. Scovell of the Terre Haute High School. Professor Yoder's talks on pedagogy and child-study, were of a high order, and were well received by the best teachers of the county. Mrs. Adams' work on music was especially timely, as all the schools of the county are to give special attention to music this year. Dr. Scovell's talks showed that in science, there is a broad field for work, and that many of the most elementary truths of science can be introduced to good advantage in the primary and country schools. Miss Thomas' lectures on primary work were thoroughly practical and of inestimable value to the primary teacher. Mrs. Adams added much to the value of the institute by having many of the best musicians of the city to appear before the teachers, giving practical object lessons in what is considered good music. The attendance during the week was about 400.

Lake County, August 31. The instruction at the Lake County Teachers' institute is said to have been of a very high order, and the most helpful to teachers of any work presented in years. Professor A. W. Edson of the Martha's Vineyard Summer School of Methods, gave three talks each day on methods as applied to reading, language and management of the school. His work was most favorably commented on by the teachers. Miss Gertrude Van Hoesen of the Cook County Normal, was engaged to illustrate primary methods in reading, numbers and language, which was done in a very satisfactory manner. Her extra lessons on nature-study and seat work were excellent. The high school teachers, principals and city superintend-

ent were all present from start to finish, and in accord with the work done, giving Superintendent Cooper a hearty endorsement for having, at a large expense, provided a program so well adapted to the needs of all grades of teachers.

Howard County, August 24. The Howard County Teachers' Institute was held August 24-28. The following officers were chosen: president, Superintendent G. W. Miller; vice-presidents, J. Z. A. McCaughan and D. W. Tucker; secretary, Hattie Williams; treasurer, E. O. Phares. The principal instructors were E. B. Bryan of Indianapolis, and Geo. L. Roberts of Greensburg. Mr. Bryan devoted the week to a discussion of psychology and sociology as related to the "Educative Process." His work was well received by all who heard it. Mr. Roberts discussed physiology and showed the teachers how to construct simple apparatus to illustrate many of the facts of this subject, and how to give these experiments to pupils. His work was very practical and helpful. In addition to these lines of work, Wm. J. Stabler of Richmond, gave several excellent lessons in vocal music. Professor Jones of Marion College, occupied one period with an interesting lecture on "The Reign of Law" and Superintendent Woody of the Kokomo schools, gave several valuable lessons in pedagogy from Shakespeare's "Tempest." The enrollment was larger and the interest better than at any previous institute. The high school teachers, representing eleven different schools, held an enthusiastic meeting Thursday. A permanent organization was effected with professors McCaughan of Kokomo, Bruer of Russiaville and Howard of New London, as executive committee to formulate programs and call such meetings of the high school teachers as may be necessary to carry on uniform high school work.

Hamilton County, August 31. The Hamilton County institute was held in the M. E. church of Noblesville. The total membership was 208, average attendance 202, expense \$250.00. The instructors were Eli F. Brown of Indianapolis, on nature studies, and Lelia Patridge of Landown, Pennsylvania, on primary methods. On Monday evening the teachers held one of the best social meetings ever had in the county. Tuesday evening Professor Brown gave an illustrated astronomical lecture that was well received by all. On Wednesday evening Miss Patridge lectured to a full house on "Girls." The lecture is a very appropriate one for institutes. On Thursday evening the teachers gave a musical and elocutionary entertainment that was a complete success. We had hundreds of visitors. J. F. Hains of the Noblesville High School, makes an excellent presiding officer. W. C. Day of Westfield is to be chairman of the Association next year. The Noblesville orchestra furnished good music each evening.

Scott County, August 24. The Teachers' Institute in Scott County was held August 24 to 28. The regular work was given by Professor J. W. Carr of Anderson and Professor P. P. Stultz of Jeffersonville, and special work by Professor H. A. Buerk of Borden Institute, besides one subject each day by home talent.

Professor Stultz did work in spelling, geography, and school management, and Professor Carr discussed school management and method in reading, language and grammar. A strong presentation of these topics was given and our teachers, without exception, commend the work. The evening lecture, "A Musical Phantasy" by Professor Carr was a rare literary treat. It is one of the best of Professor Carr's many good lectures. Sixty-one teachers supply our schools, but our enrollment was ninety-six and daily attendance seventy-eight. Resolutions were passed favoring the repeal of the Renewal License law, higher State school tax, scholarship qualification for county superintendent and declaring an abiding faith in the usefulness of good school publications.

Whitley County. The following is a brief synopsis of our institute work this year.

August 31. week, State Superintendent Pat-tengill of Michigan, and Professor F. W. Smedley of Chicago University. The former took language, composition and reading. The latter physiological psychology, child-study and pedagogy. All the work was professional rather than academic. Each afternoon we had an extra talk: on Monday, Professor Fairfield, Angola College, on "The Text-book;" Tuesday, Mrs. Barker, Chicago, "Temperance;" Wednesday, President Michael, Logansport, "Rapid Writing;" Thursday, T. A. Mott, Richmond, "Y. P. R. C.;" Friday, visiting county superintendents. For evening entertainments we had three lectures and one township graduates' oratorical contest. Had from 500 to 800 people present each evening. We charged ten cents for one lecture and fifteen cents for the contest. Teachers pay a fee of \$1.00 and are admitted free to all entertainments. Number of teachers employed in the county, 125; number of regular teachers present the first morning, 115; number present last session Friday P. M., 121; number of unemployed teachers, students and visitors present, from 100 to 300 at day sessions. Total receipts for the week.....\$233.25
Total expenses for the week..... 334.62

Knox County. Knox County Teachers' Institute was held in the High School building at Vincennes. Professor A. H.

August 24. Yoder, president of Vincennes University, who gave work in pedagogy and child-study, the latter especially proved very interesting to the teachers of the county and no doubt will in the end prove very beneficial. Mrs. Sarah E. Tarney-Campbell gave primary work in geography, reading and language. This work will prove a good thing for the teachers of the county, especially those engaged in primary work. The institute was entirely satisfactory to all the teachers, and a large number consider it the best institute ever held in the county. It has always been the endeavor of Knox County to establish a record for successful institutes, and the teachers feel the past year has been in line with past efforts.

Decatur County. The thirty-sixth annual session convened at the High School building at Greensburg, Indiana.

August 17. August 17, 1896. The instructors were W. W. Parsons, of Terre Haute, Indiana; Miss Nellie Moore of Defiance, Ohio; and Wm. J.

Stabler of Richmond, Indiana. President Parsons discussed the science of education, grammar and literature. Miss Nellie Moore gave two days to the discussion of geography and the rest of the week to language, reading, spelling and arithmetic. Wm. J. Stabler was with the institute two days and presented, in several discussions the subject of music. The full enrollment of teachers was 144. The largest enrollment of visitors on any one day was 148. On Tuesday evening the annual reunion of the teachers of Decatur County occurred at the High School Hall. The interest in these meetings seems to be increasing from year to year. On Wednesday evening Miss Nellie Moore delivered a lecture on "Our Working Materials." Wednesday was "County Board of Education" day. While many of the trustees attend from day to day, all are expected to be present at that time. Resolutions were passed on Friday providing for a Teachers' Association Thanksgiving. Geo. W. Roberts of the Greensburg High School was elected president.

Cass County, The Cass County Institute was held in the high school building at Logansport. The instructors were E. B. Bryan, who gave series of talks on economics; D. W. Dennis, who gave work in physiology, using the microscope illustrating certain parts of his work; A. Jones who gave five talks on arithmetic and five on grammar. On Monday evening Professor Dennis delivered a lecture on "Evolution." Wednesday evening Professor W. L. Bryan lectured on the Holy Land. On Thursday State Superintendent Geeting delivered a lecture to the township graduates. A. L. Moore had charge of the music. The enrollment was 226, the largest number ever enrolled in the county.

Hancock County, Hancock County Institute convened August 31 in the Greenfield High School building. There was **August 31.** a good attendance and much interest manifested all the week. President Parsons of the State Normal gave a review each afternoon of *The Tempest*, which was very much enjoyed by the teachers, together with many visitors. Mr. Parsons also gave one or two talks each day on science of education. These talks not only were intensely interesting to all the teachers, but they were an inspiration to all who listened. Professor McCormick of the Normal School, Normal, Illinois, came among us a stranger, but his kindly face and genial manner won many friends during the week. His work on history and geography was very instructive and interesting. He stripped the subjects of all their dryness and proved that they may be made two of the most important factors in education. On Tuesday evening the M. E. church was crowded to hear President Parsons lecture on *Hamlet*, which was thoroughly enjoyed by all present. Wednesday evening occurred the county oratorical contest in the Masonic Hall, and on Thursday evening the teachers and their friends gathered in the High School building to enjoy the hospitality of Superintendent Quitman Jackson, to whose exertion much of the success of the Institute is due. An excellent program was given, refreshments were served, and the evening was spent in a social good

time. All unite in saying that this year we had the best institute ever held in the county. The nature of the work was such that the teachers go into school with a thorough appreciation of the importance and nobility of the work in which they are engaged. As one teacher said, "It was a regular revival."

INSTITUTE NOTES AND PERSONALS.

E. J. Davis remains at Mooreland.
J. A. Leaky continues at Blountville.
Charles Julian remains at Richsquare.
O. B. Hulse is principal at Greentown.
J. W. Shockley is principal at Straughn.
O. C. Steele continues in charge at Ogden.
S. J. Merrell is principal at Andersonville.
H. H. Cooper is principal at Knightstown.
Ida Ludlow is principal at East Connersville.
Fletcher Gray is the principal at Bentonville.
A. Knight is principal at Lapelle another year.
Virgil McKnight is the new principal at Marion.
E. L. Mendenhall is the new principal at Carmel.
J. S. Puett is principal at Southport another year.
M. J. Searle is principal at Nineveh another year.
Isadora Wilson is the new principal at Spiceland.
Annie Prather is principal at Monroe City another year.
E. E. Tyner is superintendent at Greenwood another year.
Robert McDill continues as assistant principal at Newcastle.
Lake county enrolled 209, with an average attendance of 197.
Lena Poer, class of '96, Indiana State Normal, is at Alexandria.
G. W. Robertson remains another year as principal at Alquina.
W. C. Boyd is principal at Greensboro and Mary Avritt is assistant.
Estella Deem, class of '96, Indiana State Normal, is at Marion.
George A. Lovett is superintendent at Wolcottville another year.
Lena M. Foster is superintendent at North Vernon another year.
W. C. Day is the new principal at Westfield.
R. Estes is the assistant.
Daniel Schwegel is principal at Oldenburg, M. A. Hubbard at New Trenton.
Charles Mauck, class of '96, Indiana State Normal, is principal at Richland.
J. A. Stanley is principal at Fairfield, W. J. Bowden principal at Metamora.
N. C. Randal and W. E. Fisher are principal and assistant at Fisher's Switch.
Mike Riley, principal, and L. M. Luse, assistant, are at Ben Davis, a commissioned township graded high school, again.

Mr. and Mrs. L. N. Fouts remain at Brownstown as superintendent and principal.

J. L. Dixon, formerly of Hope Business College, is principal at West Indianapolis.

H. H. Ratcliff, class of '96, Indiana State Normal, is principal of a ward at Elwood.

D. O. Coate, class of '96, Indiana State Normal, is at Indiana University for the year.

The new principal at Cicero is F. A. Gauze. C. M. McConnell continues as assistant.

W. O. Warrick continues as superintendent at Gas City. Mrs. Warrick is the principal.

F. D. Churchill and J. A. Divine remain at Oakland City as superintendent and principal.

W. E. Howard is the new principal at New London. Evalyn White continues as assistant.

E. O. Ellis is still in charge at Fairmount Academy. Ryland Ratliff remains as principal.

J. W. Riddle continues as superintendent at Corydon and Lillian Slaughter remains as principal.

C. E. Harris remains at Broad Ripple as principal of the commissioned township graded high school.

W. E. Schoonover, class '96, I. S. N. is new superintendent at Laurel. N. V. Patterson is principal.

M. H. Stewart continues in charge at Sheridan with Minnie Ferris as principal and F. V. Kercheval as assistant.

C. N. Peak, Hiram Ruston and Jessie Skelton remain in charge of the High School at Princeton. Mr. Peak is superintendent.

The assistant principals at Kokomo this year are India Martz, M. E. Greeson, C. M. Gentry, F. F. Hummel and Cordelia Foy.

Professor A. W. Edson's work in Indiana this year has been very favorably received. It is hoped that he may come back often.

H. C. Montgomery continues as superintendent at Seymour. Frances Branaman and Emma Hibner are principal and assistant respectively.

Noble Harter and H. S. Voorhees remain at Brookville as superintendent and principal. Minnie Chambers is the new assistant principal.

Superintendent W. F. L. Sanders remains at Connersville. W. R. Houghton continues as principal and E. T. Forsyth, and J. T. Clifford as assistants.

Superintendent T. F. Fitzgibbon of Elwood, who has leave of absence for one year, will spend the time at Indiana University. Daniel Freeman will act as superintendent during his absence.

Superintendent W. B. Sinclair, of Starke county Democratic candidate for Superintendent of Public Instruction, visited a great many of the county institutes. Mr. Sinclair was well received everywhere.

The County Board of Education of Perry County has adopted a number of books to be used throughout the county for the non-commissioned high schools. They have also adopted the "Natural Course in Music for Public Schools." Superintendent George has sent for books and charts and he will give the teachers a start at the first Township Institute.

The Madison High School has just completed one of the best equipped chemical laboratories in Southern Indiana. Superintendent C. M. McDaniel is taking hold of his work in such a way that success is assured.

In Sullivan County the following resolution was passed:

Resolved, That we, the teachers of Sullivan County, recommend a change in the school laws of Indiana—this change making it lawful for County Superintendents to hold examinations, for license to teach, the last Friday and Saturday of each month, instead of the last Saturday.

A GOOD TRIP.

We have pleasure in printing a complete statement of the details of State Superintendent Geeting's itinerary. It required careful planning and "luck" in making connections to carry it out successfully:

AUGUST 3-7.

August 3, Indianapolis to LaPorte, 148 miles; August 4, LaPorte to Rockville, via Plymouth, 166 miles; August 5, Rockville to Winslow, via Terre Haute and Princeton, 127 miles; August 6, Winslow to Jasper, via Huntingburg, 33 miles; August 7, Jasper to Tell City, 41 miles; August 8, Tell City to Rockport, via Lincoln City, 36 miles; August 8, Rockport to Boonville, via Lincoln City, 33 miles. Total, 584 miles.

AUGUST 10-14.

August 10, Boonville to Brookville, via Louisville, North Vernon Lawrenceburg and Valley Junction, 245 miles; August 11, Brookville to Spencer, via Cambridge City and Indianapolis, 143 miles; August 12, Spencer to Danville, via Indianapolis 72 miles; August 13, Danville to Warsaw, via Indianapolis and Plymouth, 162 miles; August 14, Warsaw to Indianapolis, via Anderson, 88 miles. Total, 710 miles.

AUGUST 17-21.

August 17, Indianapolis to Lawrenceburg, thence to Rising Sun and return, 110 miles; August 18, Lawrenceburg to Paoli, via Mitchell, 117 miles; August 19, Paoli to Bloomington, via Orleans, 48 miles; August 20, Bloomington to Logansport, via Greencastle and Terre Haute, 192 miles; August 21, Logansport to Ridgeville, thence to Decatur, from Decatur to Indianapolis, via Kokomo, 245 miles. Total, 712 miles.

AUGUST 24-28.

August 24, Indianapolis to Rome City, via Kokomo, Decatur and Fort Wayne, 183 miles; August 25, Rome City to Huntington, via Fort Wayne, 59 miles; August 26, Huntington to Versailles, via Peru, Indianapolis, Seymour and Osgood, 208 miles; August 26, Versailles to Bloomfield, via Osgood, Mitchell and Bedford, 126 miles; August 28, Bloomfield to Sullivan, via Vincennes, 76 miles; August 29, Sullivan to Indianapolis, via Terre Haute, 99 miles. Total, 751 miles.

AUGUST 31—SEPTEMBER 4.

August 31, Indianapolis to Wabash, via Peru, 88 miles; September 1, Wabash to Crown Point, via Logansport, 105 miles; September 2, Crown Point to Williamsport, via Logansport, 137 miles; September 3, Williamsport to Lebanon, via Lafayette, 60 miles; September 4, Lebanon to Con-

nersville, via Indianapolis, 85 miles; September 5, Connersville to Indianapolis, 57 miles. Total, 532 miles.

SEPTEMBER 7-11.

September 7, Indianapolis to Elwood, via Tipton, 49 miles; September 7, Elwood to Tipton, 10 miles; September 8, Tipton to Lafayette, 50 miles; September 9, Lafayette to Attica, 22 miles; September 10, Attica to Delphi, 39 miles; September 11, Delphi to Marion, via Frankfort, 77 miles; September 11, Marion to Indianapolis, via Kokomo, 81 miles. Total, 328 miles.

SEPTEMBER 14-18.

September 14, Indianapolis to North Judson, via Logansport, 117 miles; September 16, North Judson to Indianapolis, via Logansport, 117 miles. Total, 234 miles.

Total number of miles traveled, 3,851.

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NOVEMBER, 1896.

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THE MESSAGE OF THE VISION OF SIR LAUNFAL.*

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[In Two Parts. Part II.]

IN the prelude to Part Second the scene changes and the organist strikes the keynote of the second part of the poem. The chill wind, the snows that have withstood the heat of five thousand summers, all the accumulated cold is whirled on the wanderer's cheek. Winter reigns; the elfins of the frost have wrought in rarest beauty. The

"The little brook heard it and built a roof
Neath which he could house him winter-proof."

As the poet reveals the doings of the frost artist, he employs such a succession of living, moving words as make poetry indeed seem the art of motion. In "swept," "gathered," "carried" and "whirled" are revealed with vividness and life the winter scene. The brook has caught the image of every beautiful object as it lay mirrored in his depths serene—"Each fleeting shadow of earth and sky"—and has mimicked them in fairy masonry. Cold reigns without, in contrast with the scene within the castle walls.

"Within the hall are song and laughter."

The Christmas time is at hand and all its gayety, warmth and color express the merriment of the scene. The Yule-log glows on the hearth. The whole scene is one unsurpassed, and one in which the skillful touch of the master artist is shown in every

line. Without is the cold, bleak, wintry scene; within, the glow of Christmas cheer.

"The wind without was eager and sharp,
Of Sir Launfal's gray hair it makes a harp,
And rattles and wrings
The icy strings,
Singing, in dreary monotone,
A Christmas carol of its own,
Whose burden still, as he might guess,
Was—'Shelterless, shelterless, shelterless!'"

No welcome is sounded for Sir Launfal. He now sits in the gateway and is shouted away from the porch. He sees the cheer within his own castle but is forbidden to enter. Christmas is not for him. The wintry scene is in harmony with the knight's physical condition. He has grown old in body, the frosts of many winters have settled upon his head—he is homeless—the ruddy light of his own hearth-stone is not for him.

Leafless boughs do not sing, but moan; the silent river is enshrouded in the garment of winter. No longer are the crows in sweet companionship, but

"A single crow on the tree-top bleak
From his shining feathers shed off the cold sun."

Morning has come but it does not make morning in the heart, but rather suggests that age has come; the blood has ceased to course through the veins. Morning no longer means hope, aspiration, but has come to take a last, despairing look at earth and sea.

Sir Launfal has come back from seeking the Holy Grail, an old man. He went arrayed in the splendor of dazzling armor with

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the sign of the cross blazoned on his garments; he comes bent and frail, clad in the vesture of humility but bearing within his soul the sign of the Christ-life, that which to him has become "the badge of the suffering and the poor." Sir Launfal finds relief from the cold of the wintry wind through the play of his fancy as he muses of a summer clime. He reviews that life of the long ago. The camels tread the desert sands signaled by the palms to the laughing spring. He watches this caravan come nearer and nearer until "he can count the camels in the sun," but is awakened from this comforting reverie by the voice of the leper—"For Christ's sweet sake, I beg an alms."

Sir Launfal sees only the cowering form of the leper lone and white,

"In the desolate horror of his disease."

The heart of Sir Launfal, no longer filled with scorn, responds to the heart of the leper; he recognizes "the thread of the all-sustaining Beauty;" he beholds in the crouching figure before him "an image of Him who died on the tree." He sees in the leper one who has had the winter of life, the struggle, one who has worn the crown of thorns; he sees a brother to whose life has not been denied the wounds inflicted by a selfish world. Through the service rendered to this suffering fellow-man I give to Thee who lived to show men how to live. Soul spoke to soul, and Sir Launfal remembers in humility with what scorn the gold had been flung to the leper when he, clad in gilded mail, rejoicing in the strength of youth, was setting out to keep his vow. His soul is filled with an agony of regret—"ashes and dust." His offering is a part of his "mouldy crust of coarse brown bread," "water out of a wooden bowl," and yet both are transformed into food and drink for the longing soul. As Sir Launfal mused, the leper revealed himself as the Glorified One,

"The Gate whereby men can
Enter the temple of God in Man."

The divine in man is shown to men only as they approach the temple of the Divine-Hu-

man, imbued with the Christ-like spirit. The quiet, gentle voice falls benignantly upon the unrest of Sir Launfal's soul, as out of the heavenly silence come the words, "Lo, it is I, be not afraid." You long have sought the Holy Grail,—that cup is hallowed which bears to lips athirst the living water of life. You have given yourself with your poor crust, you have given yourself with the flow of the wooden bowl. Your gift is sanctified by the love which goes with it. He enters the realms of the higher selfishness who gives himself; he feeds himself, his neighbor and the Infinite One as well.

Sir Launfal awakes from his vision. It has indeed been a revelation to him. He has thought to search in all lands, ever placing the holy cup remote from every-day surroundings; but the leper has been found at his own gate, and he, the returning wanderer, finds right at hand the means whereby he may best minister to his own soul as he proffers the bread and drink to the crouching leper.

"The Grail in my castle here is found."

Something stronger than gilded coat of mail does he need who goes in search of the Holy Grail. He must bear the world's buffets and scorns, and through the conflict with evil and want come to know the blessedness of that divine love in the heart which is deep enough and broad enough to encircle the whole family of man in a perfect brotherhood. With the change in the heart wrought by the vision comes the opening of the castle gate to every weary wanderer. Summer no longer besieges but has entered in with the poor outcast; her coming was unheralded; she came unawares and dwells there the whole year round; she lingers because the humblest serf is welcomed there. Summer is in the heart when love and sympathy reign; the blighting frosts of winter never come to the soul kindled with the love of his fellow-man.

"The meanest serf on Sir Launfal's land
Has hall and bower at his command:
And there's no poor man in the North Countree,
But is lord of the earldom as much as he."

What is the import of the poet's message? The knights of old, inspired by the legend of the holy cup, sought to find the means to purify and illumine the soul by the power of the cup rendered holy by its associations with the last hours of the crucified Savior. Aspiration is as old as the human heart itself. In this later outgrowth of the sacred legend, aspiration leads the way to higher things. What is it that awakens this motive power? The poet makes it the universal song of nature; it dwells in the human heart itself. From the moment that the young child has the birth of consciousness, from the moment that it comes to know that it is different from what it sees, from the moment that it realizes that "I am I," from that moment does the child begin to desire more than it has, to be more than it is,—aspiration is born, the child feels itself different from the dumb animal; it feels within it a groping for light. If aspiration means anything, it means divinity in man. We may go back into the remotest history of primitive man, and there we shall find him aspiring. Even in his groping he is ever conscious that some power above him, beneath him, around him, is speaking to him out of the night, "Come up higher." He recognizes a power superior to himself, he dimly sees the beckoning hand, he faintly hears the inspiring voice, he instinctively feels after the evidence of a presence greater than himself. Could there be better reason for believing that God is, than this response to the divine element, than this feeling, "I can be more than I am," found in the inmost heart of man? "'Tis not what man does that exalts him, but what man would do." Man indeed falls when he ceases to have a heart responsive to the myriads of voices of the world which urge him to effort. He is robbed of his birthright when he can stand by the ceaseless, murmuring sea and not hear it say to him, "I am the symbol of eternity; you are a part of it; power just below the infinite is yours." The man who lives in sight of the everlasting hills, if he

have eyes to see, must see that those peaks bear a message of the eternal; in the rock-ribbed fastnesses they hold the secrets of the divine lesson; man must take to himself of the strength; he must read the lesson that comes from the solid earth, God-given as it is,—these mountains point to what is above. Majesty, grandeur, dwell on their snow-capped summits, but it is the majesty of the clear, pure truth as it lives in the heart of man endowed with a power that lures heavenward. Man may wander in the gardens of the world, he must read there a message from the angels; they must ever say to him: "It is the blossoming of life that gives promise of fruitage." The beauty, the fragrance, the promise of the flowering world kindle in the heart a desire for nobler things. The power of aspiration is second only to that other fact, the power to realize the loftiest aspiration. The mind can contemplate itself, the soul can summon its forces and achieve the loftiest ideals to find that aspiration has steadily moved upward—the ideal has grown beyond present achievement.

The poet has left with us the thought that all God's gifts come for the asking, but for such asking as means the receptive soul, such asking as means that truth is sought through all the avenues of human endeavor. Heaven offers the flowers that grow in earth's gardens; Heaven offers the divine message vouchsafed in the world's great books; Heaven offers the treasures that dwell in the hearts of men and find expression in the pressure of hand, in the pulsating, throbbing heart, in the glowing, sympathetic words which come warm from the heart of a friend. Books point out the great landmarks of human life; they are the landmarks themselves. Man has communed with himself, has looked within, has felt the power divine; he has looked without, has seen God manifested in the world about him, has talked with God in the inmost recesses of his being, has caught the divine message and transferred it to the pages of books. It lives to bless, to point the soul

onward to a further solution of the problem of life. It is the old, old story of struggle, of conquest. Books inspire. Poet, prophet alike point the way to achievement. It is the glory of the world's best books that they have ripened into deeds of marvelous beauty. That book is greatest which has led to noblest deed. If a book means aspiration, if it implant within the humblest life a desire to be something, to do something better, it has served the noblest purpose. A piece of art work is not worth the doing unless it be so done that it leaves the student better. "If you get simple beauty and naught else, you get about the best thing God creates;" but simple beauty means moral beauty. Holiness and beauty must go hand in hand. If beauty of form be employed to conceal the unclean, beauty flees and hides her head in very shame that her livery should be so prostituted to evil aims.

Among the richest gifts bestowed by Heaven are men and women. The good old homely phrase, "folks," contains a world of meaning. One word uttered may come with so much of life, of heart, that the most despondent, hopeless being may take a new hold upon the world, may try again, may in the end come into the fulness of that joy which comes with the morning and grows brighter and brighter until in the glow of the setting sun it may shed a halo about the lives of men such as we fancy about the saints of old.

Nature, books, men touch us on every side. They awaken loftier motives, they point the way skyward, they point the way downward until earth and heaven meet in one grand, triumphal song of victory for all the world. The soul grows larger in contemplating the bounteous gifts of Him who "sets no price on the lavish summer." Aspiration pines for goal; the young knight, true to the King Arthur's court, desires to attain purpose of thought, word and deed. He has all of these. The salvation he seeks is individual one. He would be saved from the fact that so long as

cursed mortal among earth's children is not saved, body, mind and soul, *he* cannot be saved. It is not enough that he seek and attain personal purity; the scars upon his brother's soul must place their poor, tell-tale marks upon his own life. "The thread of the all-sustaining Beauty runs through all and doth all unite." He cannot, if he would, escape it. Hope may die in his heart, but it must revive, go to work in the world again; it must seize upon this central truth in the Christian religion, "man is my brother; I am my brother's keeper, and again it is the man nearest to me who is first my brother." "Do that duty which lies nearest thee and then thy second duty will have become plainer." "The cup in my castle here is found."

The unselfish life brings return a hundred-fold. The time was when in travail of heart there was pressed home the question, "Is your soul saved?" Out of the storm and stress of the newer, fuller life comes the burning question, "Is your brother saved?" "One must lose himself to find himself." When the heart is filled with love to God and man there is no room for sin. The idle life seeks whom it may devour, and thereby devours itself. The days spent in deeds of beneficence bring smiles through the tears, bring triumph through the struggle and place on the life a crown of glory.

What is the message of the poem? Light and life and hope, the message that came into the world two thousand years ago as a living, acting force, that has transformed the man into the gladness of everlasting service for the lowliest, that has made more and more possible the blessed "Peace on earth good will toward men." Man had felt his way in the dark to a conception of God, but in his life as he had not seen that man created in the image of God is of inestimable value. Pagan philosophers had scaled the heights of knowledge, but they had not learned the secret of life. The Christ came to bring life to dwell amid life as

it is in the conflict of every-day duty; the Christ came to demonstrate the beauty of living for others, to show how to live nobly, to show that salvation is secured through right living, prompted by an abiding faith in the final triumph of good.

What does the poet say? "He says that life means intensely and means good." As-

piration, love—these lead man to man, lead man to God. These make up the solution to life's problem.

That is a work of true art which conveys a universal truth. The poet has pointed the only way under heavens and among men, that lighted by the torch of love whereby man may enter the "Beautiful Gate."

LAFAYETTE, IND.

COLERIDGE'S ANCIENT MARINER VIEWED AS AN ALLEGORY.

WILLIAM A. MCBETH.

(CONCLUDED FROM LAST MONTH)

PART III.

"Then passed a weary time. Each throat
Was parched, and glazed each eye.
A weary time! A weary time!
How glazed each weary eye!
When looking westward I beheld
A something in the sky."

Now the voyagers have come to the period of vain hopes. He upon whose head rests the greatest blame, sees what he thinks a vague speck. It fades into a mist, then takes shape. But is it a bright, steady har-binger of safety and deliverance? No, indeed!

"As if it dodged a water-sprite,
It plunged and tacked and veered."

The direction westward, even, is significant; why did he not look to the East?

"For then ye shall see the sign,
The King coming in the East,
And all his holy angels with him."
"Then shall come the judgment sign;
In the East the King shall shine."

But how tantalizing even this fleeting uncertain speck without the power to call. How benumbed and helpless are they who have persistently done violence to their better natures! By unusual effort and means he is enabled to cry, "A sail! A sail!" and his companions hearing the delusive announcement, ready to sieze on anything having a semblance of hope, catch at the words with joy.

"Grammery they for joy did grin,
And all at once their breath drew in,
As they were drinking all."

So pleasant, so suggestive is even the thought of relief, but how fleeting and fickle are the hopes founded on unsubstantial things; for drifting between them and the level sun, the origin of their hope is seen to be but a phantom, a delusion. How often a fond hope thus held up between self and the bright light of truth is seen to be a hollow mockery, "ignes-fatui" luring to destruction.

But who are the passengers on the phantom ship? Ah! there were two,—Death and Life-in-Death! They draw near. They are casting dice for the souls on the drifting ship. Whom shall Death have? Who shall fall to the lot of Life-in-Death? Perhaps they were better fallen to the lot of Death! But no; for he who falls to Life-in-Death may yet escape from her toils and be free. How fittingly is she pictured:

"Her lips were red, her looks were free,
Her locks were yellow as gold;
Her skin was white as leprosy,
The night-mare Life-in-Death was she,
Who thicks man's blood with cold."

Have you ever seen her described before? How often men fall to her lot! A false hope on an uncertain basis, she drifts away rendering no aid. Sure of her own why need she stay? And how the gloom now settles around them again:

—“The stars rush out;
At one stride comes the dark:

“We listened, and looked sidewise up!
Fear at my heart as at a cup,
My lifeblood seemed to sip!”

How awful to give up the last forlorn hope.

“The stars were dim, and thick the night;
The steersman's face by his lamp gleamed white;
From the sails the dew did drip,
Till clomb above the eastern bar
The horned Moon, with one bright star
Within her nether tip.”

'Tis the star-dogged moon, the unlucky omen, so neither sea nor sky give any promise. Now the companion voyagers turn on the doer of the unfortunate act their looks of reproach.

“Each turned his face with a gastly pang,
And cursed me with his eye.”

He sees the awful results of his folly.

“Four times fifty living men
With heavy thump, a lifeless lump
They dropped down one by one.”

We can never know how far the influences of an evil or a good act may extend, nor can we know how serious its results when considered in connection with the weal or woe of the universe of which we are a part.

But Life-in-Death begins her work. The Ancient Mariner has created an environment of death, which, starting from the act of shooting the Albatross, has become universal in the fall of his companions, his hopes, the death of the sea about him, and the air and sky above him. He sees the complete round of the deed; Death the beginning, the end Death.

PART IV.

But now the story becomes too deep and mysterious for the wedding guest. He fears that he has a supernatural companion. 'Tis, he is sure, a strange, strange subject, but like all of us, these strange mysteries still confront him and he still “cannot chuse but hear.”

“Alone, alone, all, all alone,
Alone on a wide, wide sea!
And never a saint took pity on
My soul in agony.”

What a feeling of helplessness and solitude arises under such conditions! What a trial of fire it is to bear all alone and without sympathy or pity from God or man, or inferior creature, the stings of conscience, the soul's agony! The cup of woe must now be full to overflowing. The surroundings of the voyager are foul and disgusting. Nothing beautiful, satisfying, or elevating in sight, but everything vile, empty, depressing. The man and his surroundings harmonize, but they are a great discord in the Divine plan.

“I looked to heaven and tried to pray;
But ever a prayer had gusht,
A wicked whisper came, and made
My heart as dry as dust.”

A hardened soul in the depth of its misery never related an experience more true to life. The wicked whisper is ever forthcoming: “'Tis no use to pray. God does not want to hear you, you are too late.” Oh! poor heart! How many, like thee, are “dry as dust?” And so says the mariner:

“I closed my lids and kept them close,
And the balls like pulses beat;
For the sky and the sea, and the sea and the sky,
Lay like a load on my weary eye,
And the dead were at my feet.”

What charm has the way o'er which we journey, or the sky o'er head, when the consciousness of guilt is ever with us, while the dead are at our feet? But our voyager saw the full consequences of his deed; he saw them completely. Seven is the number of completion:

“Seven days, seven nights, I saw that curse,
And yet I could not die.”

Truly, Life-in-Death had won in the cast of the dice. But still there was beauty around and especially above him:

“The moving moon went up the sky,
And nowhere did abide:
Softly she was going up,
And a star or two beside

“Beyond the shadow of the ship
I watched the water-snakes:
They moved in tracks of shining white,
And when they reared, the elfish light
Flashed off in hoary flakes.”

ess and misery, might envy

these harmless, sportive, humble creatures; even in them, simple and insignificant as they might seem to most men, he sees beauty, freedom, happiness. Through what trivial circumstances and by what simple means do great results come about? He looks! he loves! he lives!

"A spring of love gushed from my heart,
And I blessed them unaware!"

Love and Blessing go hand in hand, and when these welled forth from the heart, with them to make up a blessed trinity, went a prayer, and under the sweet influence of Love, Blessing, and Prayer, the spell begins to break. What a miracle is wrought! He feels the burden drop from his sin-burdened soul; wonderful and joyful transformation:

"The Albatross fell off, and sank
Like lead into the sea."

PART V.

"Oh sleep! it is a gentle thing,
Beloved from pole to pole!
To Mary Queen the praise be given!
She sent the gentle sleep from heaven,
That slid into my soul."

This may typify the rest and peace that passeth understanding; that follows the consciousness of freedom from guilt. And now comes showers of blessing, so refreshing and revivifying:

"I moved, and could not feel my limbs:
I was so light—almost
I thought that I had died in sleep,
And was a blessed ghost."

Strange emotions indeed, but how mysterious, how difficult to understand this wonderful experience of awakening to a new life—this being born again. And now new wonders appear in the heavens:

"The upper air burst into life!"

Things above now seem vital and important. There is a light to illumine the edge of the cloud of mystery from which descends the water of life. A cloud of mystery yet cleft enough for sufficient light to shine through.

"Like waters shot from some high crag,
The lightning fell with never a jag,
A river steep and wide."

Light, light, oceans of it! descending with the life-giving showers. Life and light, fit companions!

Now the dead fellow-voyagers are thought back into life, and seem to take part in forwarding the voyage homeward. This startling episode greatly impresses and mystifies the guest, who is reassured by the mariner's explanation that the dead had not arisen, but that a troop of spirits, blest, had appeared. Does not a good influence spring from even the worst of circumstances? May not "all things work together for good to them that love the Lord?"

"For when it dawned, they dropped their arms,
And clustered round the mast;
Sweet sounds rose slowly through their mouths,
And from their bodies passed.
Around, around, flew each sweet sound,
Then darted to the sun;
Slowly the sounds came back again,
Now mixed, now one by one."

The air seemed filled with music, now on one hand, now on another; now the song of the skylark, now of many birds, and now of angels. The little feathered songsters of earth and the great crowned and white-robed choristers of heaven, join in one grand harmony. Here he may perceive unity and harmony; a connecting bond, binding all things together in a necessary interdependence, one part of which lost, the whole suffers. But the vessel is moving; it has been moving since the joyful awakening when the life-giving showers fell. "On and on it goes, "moved onward from beneath." We cannot always tell whence the moving spirit, or how or why it is that we find ourselves at a particular point in our spiritual experience. But this voyager was carried forward until he stood again under the vertical rays of the sun. Shall we say under the full broad light of truth? He is back to the point where the storm first struck him and drove him helpless and unguided over an unknown sea.

But the return is not to be uninterrupted.

The outward voyage may be swift, tempest-tossed, the bearings lost; is it then not too much to expect that the return shall be unhindered? The discordant notes of a stringed instrument cannot be brought back into harmony without much testing and trial. What point in his experience has he now reached? Under the fearful ordeal he passes from the natural, sensual condition of existence; for not by common perception or judgment may mystery so deep be solved, but by a higher spiritual insight. So while he is in a swoon, let the voices of the air, the voices of the unseen, explain:

" 'Is it he?' quoth one, 'Is this the man?'
By Him who died on the cross,
With his cruel bow he laid full low
The harmless Albatross.

" 'The spirit who bideth by himself
In the land of mist and snow,
He loved the bird that loved the man
That shot him with his bow.'

" The other was a softer voice,
As soft as honeydew,
Quoth he, 'The man hath penance done,
And will more penance do.'"

Justice, cold but pure as snow, follows silently, unseen but surely; "Nine fathoms deep he had followed us."

And to the doer of the deed, it remains to restore the harmony he has broken; to do penance for the wrong he has committed, ere he can advance further on his homeward journey.

PART VI.

The voices still continue their inquiries and answers:

" But tell me, tell me! speak again,
Thy soft response renewing,—
What makes that ship drive on so fast?
What is the ocean doing?"

Here is an inquiry into a difficult problem. Why this progress, why that delay? The spirit minds have different views. One thinks of the ocean, the environments as causing the manifestations in connection with the voyager. The other sets forth the view that they are determined from a different, a higher source. The affairs of this life are not isolated, independent of each other,

but part of a great plan, fit type of the different views held by different minds regarding the conduct and the destiny of man.

The causes of the transformation are not definitely explained, but it is a great one, this great progress back toward heaven and his "ain countree." There are mysteries that the voyager does not understand, that the angels do not know, of the mercy, and love and wisdom of the Great All-Father's dealings with his children; so, when this poor traveler awoke to consciousness, he was far on the way toward "the desired haven."

" I woke, and we were sailing on,
As in a gentle weather.
'Twas night, calm night, the moon was high;
The dead men stood together."

The harm, the bad influence which he had caused are hard to escape. Cold, staring-eyed death-heads are those memories of wrongs done to the one who having committed them, seeks to flee from them. Like Banquo's ghost at Macbeth's feast,

" They will not down."

" The pang, the curse, with which they died,
Had never passed away:
I could not draw my eyes from theirs,
Nor turn them up to pray."

Not free yet, but sorry, unworthy, not able to forget, not confident, trusting, prayerful. But the work of regaining his lost estate progresses:

"And now this spell was snapt: once more
I viewed the ocean green."

Things take on a more natural look. We may think of these returns of the specters as periods of remorse, doubt and almost despair. But he turns his back resolutely on the past,

"And turns no more his head,
Because he knows a frightful fiend
Doth close behind him tread."

This is a brave thing in life to do, to put the past with its mistakes, its sorrows and its failures behind, and press forward to better things.

" But soon there breathed a wind on me,"

—a breath of hope, perhaps.

" It mingled strangely with my fears,
Yet it felt like a welcoming."

And now, as onward he goes, the blissful end of the voyage approaches:

"Oh dream of joy! is this indeed
The light-house top I see?
Is this the hill? is this the kirk?
Is this my own countree?
We drifted o'er the harbor bar,
And I with sobs did pray,—
'O let me be awake, my God!
Or let me sleep away.'"

What an earnest prayer. Let me realize the blessing of my former child-like faith and confidence, or let me be forever unconscious of any feeling on the subject. He can now be satisfied with what was so limited, so simple, so unambitious, so unquestioning of proof or reason.

"The harbor bay was clear as glass,
So smoothly it was strewn;
And on the bay the moonlight lay,
And the shadow of the moon."

Sweet pictures of the soul's early experiences; the traveler is returning home.

But the final rescue is soon to occur. He sees the angelic spirits seeming to stand over each corse. A good deed, a heavenly form, taking the place of each memory of guilt.

"This seraph band, each waved his hand,
No voice did they impart,—
No voice, but oh! the silence sank
Like music on my heart."

He is attaining peace of soul; he is ready for the final rescue. The Pilot and the Pilot's boy are near, and with them the Hermit, the kind sympathetic father, who will complete his freedom from guilt, who will wash away the "Albatross' blood."

PART VII.

Now, a final separation from the wreck of the past occurs. The vessel with all its cargo of ghastly skeleton memories of life's mistakes sinks like lead. The voyager and his accompaniments part for good and all. The Pilot's boat picks him up and the final transfer to firm land is made.

What means the sinking of the ship? Has the wreck of worldly enterprise and ambition, with its ghastly failures sunk forever and left surviving a soul that has risen su-

perior to worldly things; and is the Pilot an agent or means for the accomplishment of a spiritual movement which he himself does not understand; and is the Pilot's boy the first instance of one who attributes strange things to demoniacal influences simply because he does not understand them?

"This Hermit good lives in the wood
That slopes down to the sea.
How loudly his sweet voice he rears!
He loves to talk with mariners
That come from a far countree."

Who is this Hermit? Perhaps he is love personified. The Comforter, the personification of the Good in some sense. But by these means he is transferred to the firm and sure foundation; to the stable and secure, as compared with the shifting, insecure and changeable ocean. As he steps ashore he pleads, "O shrive me, shrive me, holy man," and to the Hermit, asking, he makes his final explanation.

The change may now be presumed to be completely wrought; he is a restored, redeemed, saved soul. A soul that feels constrained to go forth from land to land having strange power of speech (the language of life and its experience in the realm of spirit is the same in all lands), and relate his wonderful story, and he speaks to those who will hear.

"That moment that his face I see,
I know the man that must hear me."

He becomes an ever-living witness of the truth. He holds up the lamp of experience to guide those who have eyes and are willing to see. In this sense the memory and admonitions, the precept and example of the good go on through all lands, teaching every man in his own language, and this forever. The uproar of the breaking up of the feast falls upon their ears. The wedding guest has had a lesson on the serious matters of the soul, instead of a season of sensual gratification and frivolity. He has communed with a soul,

"That hath been alone, all, all alone,
Alone on the wide, wide sea."

A soul that had put itself out of harmony with the Divine plan.

"So lonely 'twas, that God himself
Scarce seemed there to be."

And now the changed life manifests itself in changed desires:

"O sweeter than the marriage-feast,
'Tis sweeter far to me
To walk together to the kirk
With a goodly company,—

To walk together to the kirk,
And all together pray,
While each to his great Father bends,—
Old men, and babes, and loving friends,
And youths and maidens gay!"

And departing he leaves the wedding guest to turn from the worldly pleasures and frivolities, "A sadder and a wiser man." But what a beautiful creed he leaves; a creed

upon which all can unite, the creed that can be made universal, the creed of Love:

"Farewell, farewell! but this I tell
To thee thou Wedding Guest,—
He prayeth well who loveth well
Both man and bird and beast.

He prayeth best who loveth best
All things, both great and small;
For the dear God who loveth us,
He made and loveth all."

God is not apart from the world. Man lives not for himself alone. A divine unity runs through the universe in which every creature however humble has its place. Love is creative, upbuilding, not destructive. "Love is the fulfilling of God's Law," saith the gospel of the loving and gentle Christ.

CRAWFORDSVILLE, IND.

THE RELATION OF THE PUBLIC SCHOOLS TO THE HEALTH AND DEVELOPMENT OF THE CHILD.—I.

WALKER SCHELL, M. D.

AT the outset of my paper, I do not hesitate to submit to the candid judgment of teachers, the proposition that culture and development of the body is more important to the child and the state than training the mind. The mind is unsound which dwells in a diseased body. The value of any system of culture is measured by the standard of physical and mental health imparted to the pupil. It is a grave condition of affairs which commits wholly to men trained to impart knowledge, the care of the health and lives of children.

Everything, therefore, which pertains to the care of the health of the child is worthy of earnest and thoughtful attention on the part of those so largely responsible for the welfare of the young. In a free government it is absolutely necessary to educate children. The common schools, maintained at public expense, and open to all, train in an invaluable way the child for the duty of citizenship. Our public schools are con-

ducted as a splendid democracy, where children of all classes meet with equal rights, and contend upon equal terms for higher development. Culture is a great necessity, but is not of the same importance as health. The public sentiment which supports and sustains attendance, even if compulsory, is commendable, but the health of the child is of a vast deal more importance. It behooves school boards and teachers to consider well how the children are educated. *Mens sana in corpore sano*, is a motto that should be hung upon the wall of every school-room, for I fear it is too often out of mind. If a teacher could follow his work outside of the school-room he would find a number of martyrs among the devoted pupils who cultivate the brain at the expense of the body. "Those whom the gods love die young; but this is not due so much to the covetousness of the gods, as to the want of knowledge, or lack of purpose on the part of those who have the care of these poten-

tial cherubs." Whoever has watched the playful kitten, the young colt or lamb, moving about in wild delight exercising every muscle of the body, must realize how important exercise is to the young animals. The young lion in its native forests is a vastly different animal from the pride of the menagerie.

Young people of all ages should be allowed the opportunity, and encouraged to take proper exercise. Well-dressed and good-mannered children are a delight to the eye, but one is offended and prone to look beneath the surface training, if the specimen presented is a puny, weazened creature, looking like an over-dressed doll. There is little danger that a healthy child will play too much—when fatigued it will rest. There is rarely need for teachers to interrupt the merry play of children. There is much less danger of over-play than anxious parents believe. In play, all the muscles are called into activity and developed. The mind of the child enters into play with zest, and it is vastly more invigorated and refreshed by play than by being placed at a task. The state has wisely forbidden child-labor. The chief concern of the state is that the child be free to develop—profitable employment will take care of itself at the right time. The sharp eyes of the teacher can be better employed than in detecting and reproving the spontaneous movements of the child. It is a sad sight when the little girls and boys are made to march to tasks, like soldiers, to the drum-taps of the orderly mind of the over-zealous teacher.

It was a wise teacher who first introduced the kindergarten method, where children are encouraged to play, and teaching is only an incident. This play that all admit to be quite proper in the kindergarten ought to extend into the schools. The strong student will have great need of a well-developed chest, good digestion and a vigorous body. As the child advances, harder tasks should be given him, but exercise should not be denied older pupils. It should simply be

directed. They may be taken into the fields to study nature and encouraged to make observations during hours of recreation. A generous teacher is nearly always repaid for indulgencies, by having worthy pupils. In early childhood the amount of exercise of the two sexes is much the same, but soon the advantage is with the boys. This shows itself in the physical and mental development. In early life the superior application of the girl enables her to outstrip the lad, but if she holds her place from fourteen to twenty, she does so at the expense of her health. Boys have their games, proper to be indulged in at all ages, but girls are expected to do nothing more than walk about quietly and observe good manners. There is, no doubt just now, too much of a craze for athletics in some of our higher schools for boys, but this is denied to girls, although there has been much improvement.

There can be no doubt that the physical, mental, and moral health of young men and women is improved by plenty of exercise. I have addressed myself to teachers, yet I fear that parents are less alive to the importance of exercise than teachers. Who would not rather see a healthy hoyden of a girl running, skipping, playing tennis, riding a wheel, or rowing a boat, than a well-mannered invalid! Too often the foundation of a life of suffering has its origin in the school-room. The play-grounds of the schools in our cities and towns are frequently totally inadequate in size to the needs of playful children. In some places, dark and musty basement stories are used as play-grounds, thus depriving the child of two great requisites of healthy recreation—fresh air and sunshine. It is false economy which leads school boards to utilize every foot of space for building purposes. If public parks are the necessary breathing spaces of the city, it is equally necessary to provide breathing spaces for the young in connection with the public schools which occupy so much of their time. In the matter of clothing which

is proper for a child of school age, the opinion of a teacher will seldom be asked. The family physician is not often asked to give advice. There can certainly be no objection to children being well dressed, yet if there is much display, the democracy of the schools will make life a burden to the unhappy child. The clothing should be neat and clean, and in such good taste as not to attract attention. If the parents have money to expend on clothing beyond the needs of meteorological changes of temperature, it should be in quality rather than ornamentation. In winter, good underwear is of vastly more importance than outside dress. It should be of wool—whether worn next to the skin or not admits of some debate. The object of clothing in winter is to protect the body from too rapid loss of animal heat. The children of wealthy parents are frequently too warmly dressed and wear too many wraps about the chest, head and throat. It is not uncommon to see under-dressed children who are more hardy and vigorous, suffering also much less frequently from colds or throat and lung diseases.

TERRE HAUTE, IND.

WHAT SHALL CHILDREN PLAY.

Whether in the home or in the school the games of childhood possess an educative value that is not generally appreciated. There is a growing recognition of the function of play as a result of the kindergarten movement and the recent development of child study. But with all the discussion of the "new education" and the investigations in child psychology the average teacher is ignorant of the potency of the games which children play. The average mother is indifferent to the play of her children so long as they do not interrupt her house-keeping. It is the growing conviction of students of child life that one of the very most serious problems of education today is the problem of what our children shall play. As said in another article the most important question in the relation of the home to the school is: What shall our children eat and what shall they play. The question is two-fold: the parts are complementary. The child's play has the same relation to his spiritual development that his food has to his bodily development. Just as the body is organized out

of the food material which he eats, his character is built up of the elements received in the play of childhood. His food may be nutritious or mal-nutritious; so may his play. His food may contain poison; so may his games. Play is the spiritual food of the child.

The games of children are essentially reproductive. The little boy impersonates the characters which have impressed him. He is conductor, brakeman, driver, merchant, circus clown, lawyer, soldier, teacher. He does not build up his blocks—he makes a church, court house, wagon, fence, engine, train, bridge. He reproduces the life which he has witnessed, the institutions which surround him, the personalities that touch his life. He does not discriminate between good and bad. He reproduces either with equal readiness. Evil impresses the child just as readily as the good, but no more so. Profanity is not profanity to the baby—it is merely intense language, and he reproduces it for that reason. It is the intensity of expression that reaches the child. All the salient thoughts, expressions and events within his horizon are repeated in his play. Ideas are incarnated in a thousand childish forms. Christmas time always brings with it Santa Claus games; Spring time the little gardens. Religious tenets often meet one in grotesque forms. Notions of justice, of business, of government, are embodied in a variety of childish creations. Even the spirit of the child's environment is reproduced with remarkable fidelity. The play period of life is "the period of imagination"—the period of great activity and culture of imagination. It is the most fertile period for the formation of standards of taste. The quality of imagination and taste developed is very largely determined by the quality of the child's play-activity. The law of apperception prevails here. Healthy play develops healthy imagination and refined taste. Sordid, low play throws down both and fixes a low trend in the child's life. The taste involved in the game tends to fix itself in character—does so if not overthrown.

Play is spontaneous: it is the original relation of individuality to the mass of impressions received. It is the process by and in which the child asserts itself—in which he reveals to the world the sphere which he will occupy. It is a kind of platform or inaugural address foreshadowing the future man. Play is more than mere reproduction—it contains an element of self-assertion which modifies the reproduction by placing the stamp of the child's instinctive individuality upon it. The child gives expression to the impressions which he has received with the stamp of his own authority—he reissues these impressions as his own. His game is him his

own creation—otherwise it is of little or no interest to him. The element of creation is essential in healthy play—indeed, in all healthy activity. Play is also a process of self-revelation—a process of discovery of what one can do. The play impulse is practically the impulse of self-revelation functioning toward the ideal, constituted of the influences brought to bear upon the child's life. In this way the external becomes the ideal, and play becomes a process of realizing the ideal.

Reflection upon the educative value of these characteristics—reproduction of environment and the impression mass, activity of imagination, spontaneity, self-assertion, self-revelation, creativeness—will give a somewhat fair conception of the educative value of play. The childhood period is a period of play, period of spontaneous self-assertive, self-revealing reproduction of the child's social and nature environment. The games which children play are more or less conventional reproductions, but all involve the functions which constitute really educative activity. Play is Nature's means of education, and Nature's methods are usually effective.

The application of the foregoing is this—All play is educative, "free play" highly so. The games which children play are their spiritual food. To limit their play is to starve them, to defile their play is to poison them, to exalt their play is to ennoble their characters and strengthen their powers. The child lives by play—his life is play. It is thus he grows if he grows at all. It is thus largely that he gets the trend of his life. Of course play is not everything. "Work" has its function even in the training of very young children. Yet it is practically true that the individual becomes in manhood that which he plays in childhood. Revolutions may change the movement, but revolutions do not always come. The play of childhood is a sort of rehearsal of the role which the individual will assume in the drama of later years. It has been said that the gist of all method is this: "Let the child live in his childhood way the life which you would have him live in manhood's day." Psychology shows that he becomes what he plays. Is it idle to insist that herein lies one of the most serious problems of home and school? Is it worthy of suggestion that method on the playground and in the nursery are as important as method in the school-room? That the activities of the play-ground are often exceedingly more far-reaching than those of the school-room? And is it possible that the teacher's labor is often lost because of counteracting influences in the games which children play outside the school-room? The above presumes that children play outside of the school-room. It is re-

gretted that too many children do not. Too many schools have no play-ground. It is too bad that land is so valuable that children must lose much of the best part of their school life. There is no culture superior to the training received by the young American on a school yard on which ideal democracy holds sway and popular opinion is active. He gets here a civic training that is indispensable. It is feared that in the development of the kindergarten and the increasing use of "directed play" and manual training in our schools we may forget the incomparable value of "free play." There is a certain vigor of thought, feeling and will, and of body, that gymnastics cannot give.

These are not new thoughts by any means. Froebel urged them long ago. The ancient Greeks based much of their school education upon the principles of play. Froebel's *Mother Play* is a remarkable compilation of games illustrating the possibilities of play. The book should be studied by every parent and by teachers from the university president to the kindergartner. Froebel found that children are very strongly influenced by their games. He found that they come to have the spirit of the characters which they impersonate. If they play robber they get the robber's spirit—the robbing instinct is fostered. If they play farmer they develop the farmer's interest. Games of charity beget the spirit of charity. Cruel games beget cruelty. Games involving unsocial relations tend to beget unsocial dispositions. Games involving assertion of individuality develop self-assertion. It is said that actors become the characters which they represent—children are subject to the same laws. Games involving dignified relations and attitudes go toward fixing those attitudes in the child. The kindergartner is quite familiar with the truth of the above. The quality of the playing has often more influence than the subject matter of the game. Every public school teacher knows that rude play makes ruder boys; every mother knows that quarrelsome play breeds quarrelsomeness. It is not true that "children can live like little pigs and turn out all right in the end." And child living means child play. The following may be enunciated as a law: "Play fosters in the child the instinct which gave birth to the thing played, and the spirit which is embodied in the game. The very fibres are stained and flavored like Dr. Holmes' meerschaum by the passions and ideals that are given expression in the spontaneity of play. The new instrument is colored by the quality of the music drawn from it. If the lower keys only are touched the sounding boards become vibratile to lower tones. The child's heart is a harp whose strings are at the

mercy of spontaneity. If but coarser sentiments are touched, if only the lower chords are struck, the lower tones will color his heart. But if the heart be made to vibrate with joy and love and sympathy, it is thereby made pure and sweet. Sweet toned play stains every fibre of the individual with sweetness just as the violin is colored by the music it makes."

W. A. MILLIS.

ATTICA, IND.

THE RELATION OF THE UNIVERSITY AND THE HIGH SCHOOL.

The question raised in the topic assigned me to write upon is unusual, only in the point of view from which the matter is to be considered. "The Relation of the High School to the College" is the usual form in which this subject has come before the teachers of Indiana; while the question usually raised is, "What does the High School owe the College?" I think these subjects have been fairly treated by the college men and women. What has been said is, in the main, true. In changing the form of the question, however, we may find that it has another interesting side—that there are *other* true things—that the relations and obligations of the university and high school are mutual.

The term college, as I shall use it in this paper, is made to include all institutions of higher learning except those of a purely professional character. Indeed, I shall use it in its ordinary sense. I shall use the term in its collective sense, having reference to all institutions of higher learning rather than any particular one. The normal school being, so far as my paper is concerned, a strictly professional school, will not come within the range of my treatment of the topic.

To attempt to trace the relation of the university and the high school is like attempting to trace the relation of parent and child. The college, in some form or other is the source, the fountain-head, the parent of the high school. It was at the call of these institutions of higher education that the high school came to exist. If the college had done nothing more for the world than this it would have amply justified its right to be. The college not only called the secondary school into being, but it has given form and character to it. Indeed, the character of all secondary instruction in our state and country to-day, is what the college and university of America are making it.

In the development of schools the college came first, offering opportunities for "liberal education" to those who might pass the necessary entrance examinations. The preparation for these exam-

inations was made in the home or in the private school. This was the old academy, which has almost wholly given place to the high school. It offered courses to those who were sufficiently equipped in the elementary branches, which in turn were taught in the home or private elementary schools. This, it seems to me, is the origin of our public school system, and though the form of it has changed materially, the relation of the parts is sustained to a marvelous degree.

From the very first, the college determined what the course of study in the secondary school should be. This was quite natural and right, for secondary instruction then meant merely preparation for college. Academic instruction had nothing to do with life or living, but the object was rather a certain attainment in scholarship—knowledge—learning. Education was no part of the plan. That belonged exclusively to the college. Great changes have been wrought since then in the course of the secondary school, but these changes were wrought by the college itself. As it enlarged and extended its own course to meet the requirements of growing thought in education, new requirements for admission must be made and met; and thus, gradual changes were brought about which so enlarged the usefulness of the preparatory school that the state adopted it as a part of the public school system. The old Academy became the high school. A private educational enterprise became a public educational duty. Secondary instruction became a part of the business of the public school.

But the old college preparatory school, on becoming a public high school, did not go out of the business of preparing pupils for college. Indeed, since in Indiana the college itself is merged into the university, the high school is the *only* school of preparation which the state provides and recognizes. The regulation which requires the university to admit high school graduates without examination, in reality requires the high school to make whatever preparation the university may demand. Thus, the high school has its course dominated with an absolutism never dreamed of in the past. This is not an occasion for alarm, but rather one for congratulation. As the university finds out more and more nearly what its entrance requirements ought to be, the high school course will approach more nearly what it ought to be. This will mean a wider uniformity of matter, method, and purpose in the course. At a time comparatively recent there were as many different secondary courses of study as there were different colleges to prepare for. From that time to the present, when all must conform, in some degree at least, to the requirements of the university, is not

a long period of years, but it is a long step in advance for the high school. May we not look forward to the time when the university of Indiana, by virtue of its position at the head of our educational system and its superior opportunities for the study of educational questions, will work out for us a strictly uniform course?

I have used the term university of Indiana. By this I do not mean the Indiana University, but the university *system* of Indiana. This institution has succeeded the denominational college in the direction of secondary instruction, and to this fact may fairly be attributed the progress toward uniformity in the high school course.

In the requirements placed upon the high school by the university, I think it cannot be said that moderation has always been practiced. In fact I doubt if more can be said than that these requirements have *sometimes* been moderate. Each year demands are made which simply cannot be met. I think, however, in this particular, the institution is not wholly to blame. It is possible for us to mistake the claim of some one branch of it for the demand of the whole. The voice of the institution is sometimes drowned in the clamor of a department. Perhaps a fair criticism might be made just here. Is it not possible to make these demands through the institution rather than through a single department? It cannot but be apparent, even to a casual observer, that each department of the university would have its own subject dominate the high school course. This would not be discouraging if it were not for the fact that these demands are sometimes made with sufficient emphasis to frighten many well-meaning teachers into an attempt at compliance. I have the greatest admiration for the man, who, in the midst of his department, believes, and makes everybody else believe, that his branch of learning is the very center of all learning; but when he comes before a body of high school teachers, who do not care to know about the importance of his department, but rather what his branch is good for in the education of a youth, we have a right to expect that he will push his department far enough into the perspective to see it in relation to some other things, and that he will tell us the truth about it. To me as a man, and a student, it may be intensely interesting as a branch of study, but as a teacher, it is interesting to me only as an instrument with which to do my work.

When the high school diploma was made the certificate of admission to the university the power of controlling the course of study was lodged in that institution. With the acquisition of that power came the responsibility of understanding it. Men were set to work upon it, with results so sat-

isfactory that each year the university itself has received new and increased confidence and financial support. With this new responsibility, it has gone into the whole field of the public school, giving us a uniform common school course, and a high school course that has many of the elements of uniformity.

One of these elements, which is not yet clearly understood by the high school teachers themselves, but which is being emphasized with considerable earnestness by the university, is that of the *purpose* of the course. It is no longer a course of preparation for college but a course of preparation for life. In other words the university has learned that the best preparation for life is the best preparation for college. "The preparation that fits for life *must* fit for college," is a recent utterance on this question. This is a long step in the right direction. We have learned so recently that it seems but yesterday, that the high school does not have to do with college merely, but with life; that its business is not to prepare the pupil to grapple with college examination but with affairs; not to teach "subjects" and "branches" but people; not to produce scholars but young men and women. I confess I do not like the expression "preparation for life." It seems to me that it is life—four years of life under the best conditions, and so is the fullest, completest life which the pupil is capable of living during that time. Not so much teaching of this, that, and the other—so many hours a week for so many weeks—but rather so much *living*—so many sets of life conditions suited to his present life attainment. This manner of living, carried out into the college, or business, or both, must be the best preparation for the next step in the life process even to the grave and beyond. It is preparation for life just as any other period is a preparation for whatever of life may lie beyond it. Let the course be what it may, or even let there be no course at all, these life processes go right on. The relation of the high school course to the life processes of the youth and maiden is a field into which the University must send its keenest men.

But here again the teaching of the institution does not always appear in its departments. The number of men and women to whom the university has not made itself understood on this point is large—perhaps larger than the number to whom it has been made clear. Unfortunately, some of these latter go out into the high school and teach without any adequate notion of what it is for. This suggests another phase of my subject, to which I shall devote the remainder of my paper.

By far the gravest question that now confronts the university in its relation to the high school,

lies not in the course of study, but in the preparation of the high school teacher. Few, I think, will question the right of the university to exercise that function. Neither does the university question its duty to do this, nor is it neglecting to equip itself for that purpose. No function probably has greater prominence in the university of America to-day than that of the preparation—the training of the teacher. Here again nothing is settled. The subject is still in its experimental stage. No two institutions agree—scarcely any two departments of the same institution agree as to the teacher's equipment for his work. There is one item in the teacher's preparation, however, upon which there is practically a uniform opinion among university and college men. This item is the one of scholarship. All agree that whatever else he is, the teacher *must* be a scholar. That is, he must know the branches he is to teach. But herein lies a danger which is so serious that it can not be ignored. So necessary is scholarship as an element of the teacher's preparation, and so uniform is the opinion upon this point, that it comes, in many instances, to be regarded as the *only* essential element. That no one can teach what he does not know comes to mean that one *can* teach what he does thoroughly know. Everybody believes the first—nobody ought to believe the latter. That the university is teaching that doctrine I do not believe. That many of its departments are doing so, is dangerously true. Still, the High school teacher, whatever his professional training, must be scholarly. This is the point of universal agreement, and towards this end all are working. Out of chaos will at last come order. By and by we shall know as certainly what the equipment of the teacher should be as we now know that of the lawyer or the doctor.

When some sort of a conclusion has been reached as to the teacher's preparation, may we not expect that steps will be taken looking toward the proper means of *finding* the teacher to prepare? At present all sorts of stuff are being used as material out of which to make school teachers. The pedagogical department of the university is open to all comers, and yet all cannot be teachers. Even the normal school, whose only business is the training of teachers, is compelled to receive and train all alike, because no adequate means are yet at hand by which it can be determined whether or not the candidate can be a teacher. It is a thousand times more important that I know at the beginning whether I *can* teach, than that I learn how to teach only to discover in the end that I can't do it. There must be a *law* underlying this somewhere, but we have not yet found it.

If, with all the general and special training that

the university, and even the normal school can give a man, he may yet fail through inherent unfitness, what may be expected of him who undertakes to teach without ever having given the subject of teaching a serious thought in all his life? And it is in this connection that I wish to point out what I regard as strange want of consideration on the part of the university. I mean the indiscriminate recommendation of university graduates for high school positions. I cannot but think that the university is careless here to a degree that renders it blamable. The general course at the university will make him a better teacher than he could be without it, just as it will make him a better lawyer or doctor. The university would never dream of setting him to work at practicing law or medicine without first having taught him something about law or medicine. And yet, without having taught him a line on the subject of school teaching, it sets him to work at teaching school. What justification can be given of a practice so general as to be almost universal? What reason can there be for the recommendation of a young man for a high school position who has never taught a day; never read a line on the subject of teaching, never meant to be a teacher and does not now mean to be one, whose only equipment is his university course with medicine, law, or mechanical engineering in view. Even though he has studied, and studied well the branches he is to teach, while he can not work at all without that, these are but the tools with which to do his work. Were he an artisan, he would know that his knowledge of the tools is only preliminary to a knowledge of the business. He would understand that he must not only know his tools, but must know the material upon which they are to be used and the *thing to be wrought out of that material*. Even the ditch digger understands this. As a man of inquiring mind, he will be interested in the study of the material, the processes of manufacture, and a hundred other things about his spade; but, as a ditch digger, he *must* be interested in its adaptability to the purpose for which it was designed—that of moving dirt. As a man of intelligence, he may care to know something of the geological and chemical formation of the soil through which his ditch is to be made; but as a ditch digger, he *must* know it with reference to its *movability*. Again, as a man, he may speculate upon the adaptability of this particular soil for all sorts of excavations and embankments; but again, as a ditch digger, he *must* have a clear, well defined notion of this particular excavation—its direction, depth, boundaries at every point; and then, last of all, he must be able to meet all the conditions necessary to produce

that particular excavation—he must *know how to do the work*. This is true in every department of industrial life. Only the school teacher is sent into the field to work with no equipment but the naked tools, with no adequate notion of the material upon which he is to work, nor the object to be accomplished, nor the way pointed out by which it may be done.

The university owes it to the high school to furnish all who want to become teachers with some special training at least; and to see to it that those who do not want to be teachers and who will not accept some special training, do not get recommendations for high school positions.

D. C. ARTHUR.

LOGANSFORD, IND.

METHOD IN ARITHMETIC.—XIV.

TYPICAL PLANS—THE LAW OF INCREASE AND DECREASE IN SIMPLE NUMBERS.

Notation and numeration are not always easy topics.

At first children learn to read and write numbers in a sort of isolated way. Each number stands for itself, has its own idea and form of expression.

The child very vaguely sees any bond of unity in these forms. In learning ten, 'tis true, he has taken a step in the general procedure. In learning one hundred, has taken another. But he has made no conscious unity of these, and new numbers confuse him. He can rarely either read or write them independently. He has not generalized this knowledge.

The teacher wishes him to see that he has a law for all numbers. He must lead him to see this law and thereafter to use it. Hence he plans somewhat as follows:

I. The subject-matter in this case is the law for the increase and decrease of numbers.

1. They increase in value from right to left in a tenfold ratio.
2. They decrease in value from left to right in a tenfold ratio.

Or,

1. Ten units of a lower order make one of the next higher order.
2. One unit of a higher makes ten of the next lower order.

II. The ends to be reached are determined by the child's threefold nature.

1. The child must be led to know this law.
2. He must be led to feel in a proper way in regard to this subject-matter. This feeling will show itself in expectation, surprise and satisfaction.
3. He must be induced to exercise choice

in relation thereto. These are all related to his rational unfolding, to the greatest value from the lesson itself.

III. Steps the child must take in the process of learning this law.

1. The law of increase.
 - a. He must rethink a number of two orders and having the same number in each order.
 - b. Think the value of each in its order and in relation to the other.
 - c. Think their unity.
 - d. Repeat this process with other numbers similarly constructed.
 - e. Repeat the above with numbers having three orders.
 - f. Generalize the truth discovered.
2. The law of decrease.
 - a. The steps are similar to those given for increase.
3. Combine the two truths and express in a general law.

IV. Basis for this work.

1. The child has a knowledge of numbers to one hundred.
2. He has a knowledge of the first three orders and their uses in addition and subtraction.
 - a. In addition, the child has learned that ten units make one ten and ten tens make one hundred.
 - b. In subtraction, they have learned that one hundred equals ten tens and one ten equals ten units.

V. Means to be used to stimulate the activity desired.

1. Several numbers of two orders, the figures alike, to stimulate the first movement.
2. Call attention to the value of the figure in units' place and of the one in tens' place. This will cause the law for tens and units to appear.
3. Repetition of the above with several pupils and with several numbers. To fix the law and lead to generalization.
4. Call attention to the value expressed in a higher order and then in a lower. To suggest the law of decrease.
5. Repetition of the above to aid in generalization.
6. Have every child state in good form the law of increase and decrease as he sees it. To make expression equal to thought and to further aid in knowing the law and to test the work done in the recitation.

Other devices will suggest themselves to the thoughtful teacher. Fuller analysis of the steps and the means used will also follow.

The lesson is for a third year class. It requires greater continuity of thinking and stronger powers of inference than previous lessons have demanded.

When the pupil has mastered this law, he can easily learn the law for other numbers, as denominates, whether the scales are varied or uniform.

SAMUEL E. HARWOOD.

CARRONDALE, ILL.

CONCERNING DECIMALS.

Do you insist that the little word, and, shall not creep in in reading numbers except where it stands for the decimal point? If you do not, you and your pupils will be apt to be struggling in the Slough of Despond before the subject of decimals is finished!

Do you have the point placed *first* in writing decimals? Or do you allow, and perhaps aid and abet in the practice of writing the significant figures first, and then filling in zeros "in front" of them till the required denomination is reached,—at *tenths*, the orders being slowly and painfully "counted" the while?

Logical, is it not,—and fine discipline for the mind!

Insist upon the child's placing the decimal point first, and then, without any "counting," writing the decimal.

Suppose he is asked to write 11003 millionths. It certainly will not require any undue exertion of the brain for him to think, "millionths, sixth place; 11003, five places;—one cipher needed."

A good preliminary drill to insure readiness and accuracy in reading and writing decimals, is to have the pupils stand in an old fashioned "line" and give out to them the *names* and *places* of the decimal orders, (thus, ten-thousandths, hundredths, millionths, etc., and fifth, second, sixth, etc.,) allowing the one who corrects a "miss" to go ahead, as in spelling. It is well to have a similar drill in the pronunciation and spelling of the names of the orders.

For practice in writing decimals, a drill at the board, in which the teacher gives out the numbers, is obviously the best. Mistakes can be seen at a glance. Moreover, a habit of celerity is obtained. A system of "bell taps," and *firmness* in marking all work wrong, not done according to directions, is all that is needed to make the lesson both a valuable one and a delightful one to the pupils.

Attention should be called to the use of the hyphen in writing the names of the denominations. Place upon the board the words, four hundred

thousandths, for instance. Ask your class to write it in a decimal. The result will, in all probability, be a number of .400's, and a number of .00004's. This will demonstrate clearly the necessity of using the hyphen in certain cases.

In multiplication of decimals, eschew the complex and involved methods of analysis in vogue in some schools, and use instead the simple and common sense explanation given in *The Western Teacher*.

Problem. $.42 \times .34$.

Solution. "If the factors were whole numbers, the product would be 1428. Dividing a factor divides the product by the same number. Since each factor is divided by 100, the product is divided by 10,000."

In division of decimals, that *bête noire* of so many pupils, difficulty and "haphazardness" in placing the point in the quotient may be done away with by recourse to the following method: (Quoted from an article written for *Intelligence*.)

Problem. $1.001008 \div 17.18$.

Method.

$$\begin{array}{r} .0582+ \\ 1718.) 100.1008 \\ \underline{8590} \\ 14200 \\ \underline{13744} \\ 4568 \\ \underline{3436} \end{array}$$

Make the divisor a whole number; move the decimal point in the dividend the same number of places to the right; (of course the children are supposed to know that multiplying both dividend and divisor by the same number, does not alter the value of the quotient); place the point in the quotient immediately above the point in the dividend, and you are ready to divide,—with the point "fixed" in the answer.

ELEANOR ROOT.

BOSTON, MASS.

A STEP FORWARD.

After the first of January next, no teacher can be appointed in the state of New York to a position in any city school below the high school, who has not had at least one year of professional training in addition to a high school course or its full equivalent. This requirement will not be made of teachers with three years or more of successful experience, but all others must conform to the law. It is probable that another step in the direction of professionalizing teaching will be taken by the legislature the coming winter by the enactment of a law requiring high school teachers to be college graduates, with at least one year of professional training. This training must be given either in the normal school or in the department of pedagogy which it is expected every college will hereafter conduct in that state.—*Journal of Pedagogy*.

PRIMARY WORK.

MISS LAURA FRAZEE, Supervisor Primary Grades,
Terre Haute Schools.

PATIENCE WITH LOVE.

They are such tiny feet!
They have gone such a little way to meet
The years that are required to break
Their steps to evenness and make
Them go
More sure and slow.
They are such little hands!
Be kind—things are so new, and life but stands
A step beyond the door-way. All around
New day has found
Such tempting things to shine upon, and so
The hands are tempted oft you know.
They are such fond clear eyes
That widen to surprise
At every turn! They are so often held
To sun or showers—showers soon dispelled
By looking in our face—
Love asks for such, much grace.
They are such fair, frail gifts!
Uncertain as the rifts
Of light that lie along the sky.
They may not be here by and by.
Give them not love, but more, above,
And harder—patience with the love.

—Selected.

THE SCHOOL—IS IT MASTER OR SERVANT?

Humanity, in its long struggle toward the infinities, grasps truth in whatever aspect truth presents itself. Truth, being an elusive thing, and a many-sided thing, is not easily captured; nor, once being a captive, is easily compelled to yield up all its secrets. We know a great many things—in part. We act according to our imperfect knowledge, and thus fix upon ourselves habits of imperfect thought and action. And when that which is perfect is come, and that which is in part is done away, we are slow to break up the old forms of action and make them conform to the new thought.

When our forefathers were grappling with the relation between the child and the school, they laid hold of a large truth; too large, indeed, for them to wholly subdue. It is not to their discredit that they were unable to master it. We who come after them are mightier than they only because our strength is added to theirs. They held, tacitly at least, that there is a relation between the child and the school; the only mistake they made was in the way they stated the proposition. All we have had to do was to reverse it, and make it read: The school exists for the sake of the child.

Simple as it seems, we have been a long time about it. We have needed line upon line and precept upon precept to make us believe otherwise than that the child exists for the School. And

even since the idea has grown repulsive to us, as an idea, we still embrace it in action, and allow it to dictate to us how our school work shall be done. The school exists for the sake of the Child. We have accepted it—as theory. In the institute and the teachers' meeting, on examination day—anywhere in mind or on paper, our orthodoxy is unquestionable. Our skepticism reveals itself only in the way we teach school. It is a very good saying in the ears of many teachers. The only thing they object to is applying it in a practical way. There are many who know the truth and do it not; who know the truth in so feeble a way that it does not make them free. Do you, who teach in the public schools, exalt the school as such, and regard little children as necessary evils? Are you annoyed by the natural manifestations of child life, and do the children whose lives are most strongly marked by those manifestations affect you as thorns in the flesh? Are you so shut in by your four walls and the unyielding iron of your daily routine that you put formalities above life? If you can not answer these questions in the negative, the correctness of your theories, as you may hold them in the abstract, does not palliate your wrong. To the teacher who sacrifices all else to a certain mechanical order of things, who looks upon the school as the end and the child as the means, who spends one-half her energy pouring the contents of her own mind and of the school text-books into the mind of the child, and the other half in guarding every aperture lest he allow some original thought or action to escape—to such a teacher the gospel has not yet come; no matter how correct her opinions are, she is yet in her sins. That the school must obey the child, that it exists for his sake, and kindred statements have been reiterated until they sound exceedingly trite. But the triteness is confined almost exclusively to the field of theory. In practice such sentiments are as rare as in theory they are common. The purpose of this paper is not to set forth new theories for the sake of the theories, but for the sake of the childhood with which we deal, to unroll certain old ones, with the intense conviction that they should, and can, be practiced.

Although our theoretical heads be lifted up above the Squeers of by-gone generations, there are yet many things of which we, in our philosophy, have not even dreamed, and many other things concerning which we have only dreamed. Disagreeable as it unfortunately seems to some of us, children with their perverse tendencies are necessities to the existence of the schools. In point of time, as well, children have the advantage. They are the more ancient institution of the two, having entered the world long before the school was ever thought

of. It might help us, also, to remember that it is these children, and not the school as a formal thing, who are, after awhile, to do the world's work. The child is the immortal element, the school a temporary expedient. He is to achieve a high destiny; it is one of the steps by which he mounts. He is the end; it is but an instrument.

We believe this—on paper. The child's existence, to many a teacher, is bounded by the nine or ten months he spends in her room. His nature is limited to those phases of it which can maintain a certain bodily position and answer a question. She sees that children come and children go, but The School goes on forever; and consequently The School is the greater of the two. So it goes without saying—for none would say it—that the child is made for the school; and woe to those particular children and to those characteristics of child life which do not unresistingly fit themselves to the School Pattern. The school is the inquisitorial bed to the limits of which each child must conform—he that is too short being stretched out and he that is too long being cut off to fit. It is a mammoth mill through which a grist of children is annually ground, the tendency of the process being to reduce the variety found in the unground article to the dead uniformity of the contents of a flour barrel.

The undue exaltation of the school is not the only instance of the elevation of that which should be servant to the place of master. Zealous Pharisees are continually guarding some Sabbath Day form, not seeing that it is infinitely less important than the divine healing of a withered hand; and failing to comprehend the great truth in the words, "The Sabbath was made for man and not man for the Sabbath." The tendency to make end become means and means become end is seen in all the institutions. It is one phase of its childhood which the race has not yet out-grown. It is a more refined type of idolatry. In the one case "he maketh it a graven image and falleth down thereto." In the other case "he maketh it an institutional image and falleth down thereto." But the principle, "He that would be great among you let him be your minister," applies to an institution as well as to an individual. The state is truly great when it is best serving the needs of mankind. A republic is a higher form of government than a despotism because in the despotism the ruling power is the served while in a republic it is the servant. In the one the people exist for the government. In the other the government exists for the people. Government progresses as the ruling power becomes more and more subservient to the well-being of those ruled. Business is a blessing while it is used as a means. When money-getting becomes

the aim in life it is a curse. Its place is that of a minister to life.

When the social order of a nation crystallizes into some form of caste or aristocracy, and this form lifts up its head and demands protection and tribute from the people whom it oppresses, that social order has become social disorder. It has violated the first principle of its existence; namely, service to mankind. The same tendency is often seen in the church; the creed is glorified until it is thought to be higher and holier than the souls of men or the will of God. The palatial church buildings are esteemed to be more sacred than human bodies and human wants. In this way the church loses its power until it awakes to the necessity of subordinating its outward forms to man's needs.

So with the school; when its rules and regulations, markings and examinations, rewards and punishments, become the emphasized things in the practice of the teacher, it has lost its real power. To regain this it must be filled with the spirit which prompted the forerunner of Christ to say, "He must increase but I must decrease." The life of the little child must increase even if to that end the school requirements decrease, or are radically changed. The boast of a great factory is not its machinery, valuable and intricate as that may be. The factory is not run day after day for the sake of the delightful hum and the splendid rapidity of its whirling wheels. In his *Theory and Practice of Teaching* Thring says, "Good nets make poor gods; and the most valuable and necessary instruments are apt to disappoint their adorers when set up as ends desirable in themselves." Colonel Parker expresses the same thought: "Of all the shallow, heartless, sayings 'Art for art's sake' seems to be the culmination and climax." "Money for money's sake," "Knowledge for the sake of knowledge" are comparable phrases. *There is nothing in this universe that is not for the sake of human souls and their salvation.* Let us settle it once for all, not only in our theory but in our daily practice, that the school is to be servant to each child. No school requirement has a right to exist if it violate the physical or spiritual nature of the children. What a readjusting and dropping out of regulations such a test would bring about if it were applied in schools! If any right hand of the school's authority offend the inborn nature of the child let that right hand be cut off and cast from the institution. Be assured that the school will not be maimed by such a process. It will only be rising to its true place, responsive in everything to the lives to which it ministers.

How can the school be fitted to the child? How may we test its present condition and determine

in what particular point it does or does not conform to the requirements of childhood? What is the pillar of fire that will lead us out of our wilderness on this point? There can be but one answer to these questions. If a tailor is to fit a coat to a man he must measure the man. Before a teacher can suit her school to the needs of expanding life, she must study expanding life. Only by a thorough knowledge of child nature can the teacher adapt means for its development.

Hand in hand with the popular misconception of the child as a means in education is found a certain attitude of the teacher toward child and school. As the school is to her of primal importance, she studies its curriculum, analyzes the subject-matter of its various branches, and works out methods of presenting them.

As the child is in school to learn this subject matter, she gains through psychology and method an insight into the intellect by which he masters it. But of the other two-thirds of his life she takes little note.

Hand in hand with the true practice of placing the child as the center, and allowing his nature to determine the school studies and activities, will go a very different attitude of the teacher toward these two factors. When seen in the light of its own dignity and divinity, childhood must be the subject of her deepest and most delightful study. She will study subject-matter and school regulations none the less than in the first instance, but she will look at them in a different light. It is only recently that the great body of educational literature, normal schools, teachers' examinations and institutes have ceased to emphasize the means in education, and have brought to the front for study the being to be educated.

The greatest need in education is an appreciative understanding of the children whom we are trying to educate. That would give the key to a thousand perplexities. It would lead, as nothing else can, to an improvement in the next generation of the quality of manhood and womanhood. And that is the ultimate object of our work—to train up a generation which shall be nobler and wiser and better than our own.

The knowledge of childhood involves two great elements:—1st. The knowledge of humanity of which the child is a part. 2nd. The knowledge of those characteristics which mark childhood as distinct from adult life. Let us notice briefly the first of these. Humanity, with its intensity of life, with the long process of evolution which has brought it to the ground it now holds, and which is earnest of the infinite advance it will make in the future in working out its great purpose in the world, with its thought and passion and achiev-

ment—humanity must be, next to God, the teacher's greatest interest. It has been put even more strongly than that, "He who loveth not his brother whom he hath seen, how can he love God whom he hath not seen?"

The teacher, to do the work and deserve the name of a teacher, must seek with a sympathetic heart to know mankind. She must attune herself to "The deep pulsations of the world." She, who above almost all others, works with, and in, and for humanity, must do it understanding the principles of human life.

This knowledge of human life includes, but is not limited to a knowledge of psychology as it is ordinarily studied. To know psychology is to know a treatise on facts and principles of mind. To know humanity is to know the subject of the treatise. To have studied the first without the second, is like studying botany without seeing plants, or zoology without observing animals. Psychology is dead. Humanity is alive. This does not belittle the field of psychology. But it, like all things else, exists as an instrument for man's perfection, and loses its value when dissociated from life. It is the means by which all activity is to be interpreted. By using it thus as a means human activity in all its breadth of scope, from the civilization of a nation to the simple habit of a little child, is seen to be bound up in a great unity; so that the teacher in her attempts to understand some special trait in some particular child, may call to her aid her insight into ancient times, foreign people or adult life.

The second element in the understanding of child-life, as was said, is a knowledge of those characteristics in which it differs from maturity. But before entering into this in detail, it is well to see the relation which exists between it and the element just discussed; namely, a comprehension of human life. An insight into human life is to a knowledge of the special traits of childhood as the whole to the part or the general to the particular. The teacher who would be a student of child-life, in its special characteristics, must build her work upon a solid basis of general psychology and an insight into human nature or it will be superficial and futile. This point should be kept well in mind. The child-study idea is gaining ground rapidly. It is being taken up by some master minds. But numberless lesser lights are entering upon it very much as the blind men studied the elephant, and with about as satisfactory results. The man who knows nothing of pathology in general is not ready to specialize on children's diseases. Unity must be the standpoint from which to study difference.

Having noted this relation between an insight

into human life and a study of those characteristics which are distinctively the property of childhood, we shall look briefly into the claims of the latter as an element in successful dealing with children. It is generally the case that teachers recognize and try to meet the necessity for a training in general psychology. But few have attempted any specialization in the line of child-study. Nor has it been to any great degree the fault of the teachers. The thought that childhood held any special secret worth being sought after is, except among the rare seers of the past, a new one. It is but beginning to make itself felt in the educational world. The rank and file of the profession have been in the habit of taking it for granted that they understood children and have given the subject no further thought.

It does seem strange, upon first thought, that with a world full of children whom we have known more or less intimately all our lives, there should remain so much unknown and unimagined in them that we must make a special and continuous study of them. It seems stranger still, that after having passed through childhood ourselves, it should hold any mystery for us. But the particular child-life about us is continually shadowing forth in its activity, great truths which we, untaught, have not eyes to see. It is uttering in its childish talk deep prophecies of its mature life which we have not ears to hear. Child-life is symbolic and a symbol must be interpreted to be understood. As for the light which our own childhood might throw upon the subject, we have come such a long way from it in experience and by such a gradual growth that we do not contrast sharply between the two stages. On the contrary, grown people are prone to ascribe their present habits of mature thought, feeling and action to their childhood. They imagine, or at least act upon the assumption, that children should have the views and habits belonging to maturity. Because the journey has been long and the scenery and atmosphere have changed so imperceptibly they do not realize the great difference between the region they have left and the one into which they have come.

There are vast differences between a child and an adult. The one is not merely a small edition counterpart of the other. These differences are physical, mental and moral. They are impressed with more or less distinctness upon almost every phase of child-life. Some are important, others are trivial. Some are fairly well understood, others are not. Doubtless many are as yet undiscovered. To enter into a further discussion of these would be to plunge at once into lines of detailed child-study which could better be treated in another paper.

In conclusion it is important to settle upon the true aim in this work. Principal E. Harlow Russell of the Massachusetts State Normal, has well expressed it thus: "Child-study is primarily for the sake of the pupil, secondarily for the sake of the teacher and *incidentally* for the sake of science." Stating the same thought from the side of result, we would say that the children are to reap the great harvest of profit from child-study. The teacher and science will be helped in a reflex way. The child when understood will be treated as an individual. He will be recognized and developed as a thinker. His natural activities will be given a field for expression. His emotional life will be fostered instead of being ignored and deadened. His physical being will not be sinned against by unnatural school requirements. To the teacher will come, without her effort that it should be so, a quickened sympathy, a broadened knowledge, a clearer insight into character, in short a truer life. To science may be given the systematized result of the teacher's work—a contribution to the psychology of development, which, after much time and research, will be evolved as a new and powerful instrument in the interpretation and guidance of child-life.

Before leaving this point it should be reiterated that in the work of *the teacher of children* the scientific result is to be entirely subordinated to the good of the pupils. The fact exists that much of the child-study work being done in schools is *intensive* without being *extensive*. Practically ignoring the symmetrical round of child-nature, the teachers pursue the detailed and isolated study of some minor trait to which they have been directed by one who is enthusiastic in scientific research. This is, of necessity, detrimental both to the children and to science. In the children the studied characteristic is magnified and developed out of its due proportion and at the expense of others equally or more important. On the scientific side, such work, because of this undue proportion of emphasis, and because of the lack of an extensive psychological knowledge on the part of the teachers engaged in it, is to a great degree valueless.

J. Mark Baldwin condemns this in no uncertain way. He says: "In the matter of experimenting with children, therefore, our theories must guide our work—guide it into channels which are safe for the growth of the child, stimulating to his power, definite and enlightening in the outcome. All this has been largely lacking, I think so far, both in scientific psychology and in applied pedagogy."

And again: "Now, there are two ways of studying a child, as of studying any other object

—observation and experiment. But who can observe and who can experiment? Who can look through a telescope and 'observe' a new satellite? Only a skillful astronomer. Who can hear a patient's hesitating speech and 'observe' aphasia? Only a neurologist. Observation means the acutest exercise of the discriminating faculty of the scientific specialist. And yet, many of the observations which we have in this field were made by the average mother, who knows less about the human body than she does about the moon or a wild flower; or by the average father, who sees his child for an hour a day, when the boy is dressed up, and who has never slept in the same room with him in his life; by people who have never heard the distinction between reflex and voluntary action, or that between nervous adaptation and conscious selection. Only the psychologist can 'observe' the child, and he must be so saturated with his information and his theories that the conduct of the child becomes instinct with meaning for his theories of mind and body."

A brief summing up of the thought herein presented shows the following main points:

1. It is the province of the school to serve the child as it is the province of all institutions to serve humanity.
2. Humanity is prone to reverse this relation and unduly exalt the school and the other institutions.
3. The school can be adapted to childhood only when child nature is understood.
4. This gives rise to the necessity for child-study and the study of humanity in general.

THE MISSION OF SOCIAL INSTITUTIONS.

Two elements, then, seem to be comprised in the great fact which we call civilization:—two circumstances are necessary to its existence—it lives upon two conditions—it reveals itself by two symptoms; the progress of society, the progress of individuals; the melioration of the social system, and the expansion of the mind and faculties of man. Wherever the exterior condition of man becomes enlarged, quickened, and improved; wherever the intellectual nature of man distinguishes itself by its energy, brilliancy, and its grandeur; wherever these two signs concur, and they often do so, notwithstanding the gravest imperfections in the social system, there man proclaims and applauds civilization.

Of the two developments of which we have just now spoken, and which together constitute civilization,—of the development of society on one part, and of the expansion of human intelligence on the other—which is the end? which are the means? Is it for the improvement of the social

condition, for the melioration of his existence upon the earth, that man fully develops himself, his mind, his faculties, his sentiments, his ideas, his whole being? Or, is the melioration of the social condition the progress of society,—is indeed, society itself merely the theater, the occasion, the motive and excitement for the development of the individual? In a word, is society formed for the individual, or the individual for society? Upon the reply to this question depends our knowledge of whether the destiny of man is purely social, whether society exhausts and absorbs the entire man, or whether he bears within him something foreign, something superior to his existence in this world?

One of the greatest philosophers and most distinguished men of the present age, whose words become indelibly engraved upon whatever spot they fall, has resolved this question; he has resolved it, at least, according to his own conviction. The following are his words: "Human societies are born, live, and die upon the earth; there they accomplish their destinies. But they contain not the whole man. After his engagement to society there still remains in him the more noble part of his nature; those high faculties by which he elevates himself to God, to a future life, and to the unknown blessings of an invisible world. We, individuals, each with a separate and distinct existence, with an identical person, we, truly beings endowed with immortality, we have a higher destiny than that of states."

I shall add nothing on this subject; it is not my province to handle it; it is enough for me to have placed it before you. It haunts us again at the close of the history of civilization. Where the history of civilization ends; when there is no more to be said of the present life, man invincibly demands if all is over—if that be the end of all things? This, then, is the last problem, and the grandest, to which the history of civilization can lead us. It is sufficient that I have marked its place and its sublime character.—Guizot's *History of Civilization in Europe*.

CHARACTERISTICS OF FROEBEL'S SCHOOL AT KEILHAU.

The following is a description of Froebel's school at Keilhau. It is given here as an example of the school made the servant of the pupils composing it. In this institution were being educated not only children of kindergarten age, with whom we usually associate the name of Froebel, but children of the higher grades as well.

The account is taken from an official report of Superintendent Zech, who was sent by the Prussian government to inspect the work of the school:

"Each day which I passed in the institute, almost as one of its members, as it were, were in every way pleasant to me, highly interesting and instructive. They increased and strengthened my respect for the institute as a whole, as well as for its directors, who upheld and maintained it amid the storms of care and want with rare persistence and with the purest and most unselfish zeal. It is most pleasing to feel the influence which goes out from the buoyant, vigorous, free, and yet orderly spirit that pervades this institution, both in the lessons and at other times.

"I found here what is never seen in actual practical life, a thoroughly and intimately united family of at least sixty members, living in quiet harmony, all showing that they gladly perform the duties of their very different positions; a family held together by the strong ties of mutual confidence, and in which, consequently, every member seeks the interest of the whole, where all things thrive in joy and love, apparently without effort.

"With great respect and real affection all turn to the principal; the little five-year-old children hang about his knees, while his friends and assistants hear and honor his advice with the confidence due to his insight and experience, and to his indefatigable zeal in the interest of the institution; and he himself seems to love in brotherliness and friendship his fellow-workers, as the props and pillars of his life-work, which to him is truly a holy work.

"It is evident that a feeling of such perfect harmony and unity among the teachers must in every way exert the most salutary influence on the discipline and instruction, and on the pupils themselves. The love and respect in which the latter hold all their teachers is shown in a degree of attention and obedience that renders needless almost all disciplinary severity. During the two days I heard no reproving word from the lips of the teachers, neither in the joyous tumult of intermission nor during the time of instruction; the merriest confusion with which, after instruction, all sought the play-ground, was free from every indication of ill-breeding, of rude and unmannerly, and, most of all, of immoral conduct. Perfectly free and equal among themselves, reminded of their privileges of rank and birth neither by their attire nor by their names—for each pupil is called only by his Christian name—the pupils, great and small, live in joyousness and serenity, freely intermingling, as if each obeyed only his own law, like the sons of one father; and while all seem unrestrained, and use their powers and carry on their plays in freedom, they are under the constant supervision of their teachers, who either observe

them or take part in their plays, equally subject with them to the laws of the game.

"Every latent power is aroused in so large and united a family, and finds a place where it can exert itself; every inclination finds an equal or similar inclination, more clearly pronounced than itself, by which it can strengthen itself; but no impropriety can thrive, for whoever would commit some excess punishes himself, the others no longer need him, he is simply left out of the circle. If he would return he must learn to adapt himself, he must become a better boy. Thus, the boys guide, reprove, punish, educate, cultivate one another unconsciously by the most varied incitements to activity and by mutual restriction.

"The agreeable impression of the institution, as a whole, is increased by the domestic order which is everywhere manifest, and which alone can give coherence to so large a family, by a punctuality free from all pedantry and by a cleanliness which is rarely met in so high a degree in educational institutions.

"This vigorous and free, yet well-ordered outer life has its perfect counterpart in the inner life of heart and mind that is here aroused and established. Instruction leads the five-year-old child simply to find himself, to differentiate himself from external things, and to distinguish these among themselves; to know clearly what he sees in his nearest surroundings, and, at the same time, to designate it with the right words, to enjoy his first knowledge as the first contribution toward his future intellectual treasure. Self-activity of the mind is the first law of instruction; * * * slowly, continuously, and in logical succession it proceeds * * * from the simple to the complex, from the concrete to the abstract, so well adapted to the child and his needs, that he learns as eagerly as he plays; nay, I noticed how the little children, whose lesson had been somewhat delayed by my arrival, came in tears to the principal of the institution and asked 'should they to-day always play and never learn, and were only the big boys to be taught to-day?'

"My experience was the same as that of all impartial examiners of the institution. Of all strangers who had visited and inspected the institution, and whose opinion I heard, none left without being pleased, and many whom I deem specially competent came away full of enthusiasm, and fully appreciated the high aim of the institution and the perfectly natural method it follows in order to attain its object as surely and completely as possible. This object is by no means mere knowledge, but the *free, self-active development of the mind from within*. Nothing is added from without except to enlighten the mind, to strengthen the pupil's power, and to add to his joy by enhancing his

consciousness of growing power. The principal of the institution beholds with enthusiasm the nobility that adorns the mind and heart of the all-sidedly developed human beings; in the high destiny of such a man he has found the aim of his work, which is to develop the *whole* man, whose inner being is established between true *insight* and true *religiousness* as its poles. Every pupil is to unfold this from his own inner life, and is to become in the serene consciousness of his own power what this power may enable him to become.

"What the pupils know is not a shapeless mass, but has form and life, and is, if at all possible, immediately applied in life. Each one is, as it were, familiar with himself; there is not a trace of thoughtless repetition of the words of others, nor of

vague knowledge among any of the pupils. What they express they have inwardly seen, and is enounced as from inner necessity with clearness and decision. Even the objections of the teachers cannot change their opinion until they have clearly seen their error. Whatever they take up, they must be able to *think*; what they can not think they do not take up. Thus seen, the institution is a gymnasium in the fullest sense, for all that is done becomes mental gymnastics.

"Happy the children who can be taught here from earliest school-life (six years)! If all schools could be transformed into such educational institutions, they would send out in a few generations a people intellectually stronger, and, in spite of original depravity, purer, nobler."

THANKSGIVING PROGRAM.

BEATRICE SANDERS,

Professor of Music, Indiana State Normal.

In preparing a program for Thanksgiving I realize that few teachers devote much time to this holiday. Our schools almost become days of entertainment if we stop to celebrate every day set apart. But what one offers such opportunity for broadening the child as does this one? I have attempted to make this three-fold:

First. To show that the day is National.

Second. To develop the home life.

Third. To show that the principal object in any part of our life and education should be to give pleasure to and help others.

Let the children know several days before hand that they will be given an opportunity to tell why they should be thankful. Some may speak of parents, some a new dress or coat, a roof on their home, others their school, but whatever it is, let it be what the child has found in his own life, and not something assigned by the teacher.

The song, "Over the River and Through the Woods," may be found in Clara Beeson Hubbard's *Merry Games and Songs*, or *Songs and Games for Little Ones*, by Harriet S. Jenks and Gertrude Walker. This may be used in Grammar or Primary grades. If in the latter, it may be given in the form of a play (as used in kindergarten). Six or eight large boys stand with hands together, raised above their heads, forming an arch. A little girl sits inside dressed as grandmother. Two children or four act as horses and a group hold on to the one driving. As they gallop around to grandma's house they sing this song.

The little songs and recitations taken from *Give Thanks* may be obtained from Fillmore Bros. of Cincinnati, for five cents.

Reading of President's Proclamation.

Song. "God Bless our Native Land."

Essay. Thanksgiving—(Historical and Practical.)

Recitation. To Whom We Shall Give Thanks.

1. A little boy had sought the pump,
From whence the sparkling water burst,
And drank with eager joy the draught
That kindly quenched his raging thirst;
Then gracefully he touched his cap,—
"I thank you, Mr. Pump," he said,
"For this nice drink you've given me!"
(This little boy had been well bred).
2. Then said the Pump: "My little man,
You're welcome to what I have done;
But I am not the one to thank,—
I only help the water run."
"Oh, then," the little fellow said
(Polite he always meant to be),
"Cold Water, please accept my thanks;
You have been very kind to me."
"Ah!" said Cold Water, "don't thank me;
Far up the hillside lives the Spring
That sends me forth with generous hand,
To gladden every living thing."
"I'll thank the Spring, then," said the boy,
And gracefully he bowed his head.
"Oh, don't thank me, my little man,"
The Spring, with silvery accents said.
3. "Oh, don't thank me,—for what am I,
Without the Dews and Summer Rain?
Without their aid I ne'er could quench
Your thirst, my little boy, again."
"Oh, well, then," said the little boy,

- "I'll gladly thank the Rain and Dew."
 "Pray, don't thank us,—without the Sun
 We could not fill one cup for you."
4. "Then, Mr. Sun, ten thousand thanks
 For all that you have done for me."
 "Stop!" said the Sun, with blushing face;
 "My little fellow, don't thank me;
 'Twas from the Ocean's mighty stores
 I drew the draught I gave to thee."
 "O Ocean, thanks!" then said the boy.
 It echoed back, "Not unto me,—
5. "Not unto me, but unto Him
 Who formed the depths in which I lie.
 Go, give thy thanks, my little boy,
 To Him who will thy wants supply."
 The boy took off his cap, and said,
 In tones so gentle and subdued:
 "O God! I thank Thee for this gift;
 Thou art the Giver of all good."
 —Taken from "*Best Things from Best Authors.*"
- Quotations—
 "The ripened nuts drop downward day by day
 Sounding the hollow tocsin of decay
 And bandit squirrels smuggle them away."
 —Anon.
- "With blooms full-sapped again will smile the
 land,
 The fall is but the folding of His hand,
 Anon with fuller glories to expand."
 —Anon.
- "God gives us with our rugged soil
 The power to make it Eden-fair,
 And richer fruits to crown our toil
 Than summer-wedded islands bear."
 —Whittier.
- Song. "To-day We Hold Thanksgiving."
 —From *Give Thanks*.
- Declamation. "Thanksgiving Turkey."
 —From *Give Thanks*.
- Declamation. "Thanksgiving."
 —From *Give Thanks*.
- Song. "Over the River and Thro' the Wood."
 1. Over the river and through the wood,
 To grandfather's home we go,
 The horse knows the way to carry the sleigh
 Through the white and drifted snow.
2. Over the river and through the wood,
 Oh, how the wind does blow!
 It stings the toes,
 It bites the nose,
 As over the ground we go.
3. Over the river and through the wood,
 Trot fast, my dappled gray,
 Spring over the ground,
 Like a hunting hound,
 For this is Thanksgiving day.

4. Over the river and through the wood,
 And straight through the barnyard gate.
 We seem to go
 Extremely slow,
 It is so hard to wait.
5. Over the river and through the wood,
 Now grandmother's cap I spy,
 Hurrah for the fun!
 Is the pudding done?
 Hurrah for the pumpkin pie.
 —Lydia Maria Childs.

Declamation. "The Pumpkin."

—Whittier.

Song. "I Washed My Hands."

1. "I washed my hands this morning,
 So very clean and white
 And gave them both to Jesus
 To work for Him till night.

Cho.—Little feet be careful
 Where you take me to,
 Anything for Jesus
 Only let me do.

2. "I set my eyes to watch them
 About their work or play,
 To keep them out of mischief
 For Jesus' sake all day.

Cho.—Little feet, etc.

3. "I told my eyes to watch them
 So careful all day through,
 For any act of kindness
 These little hands might do.

Cho.—Little feet, etc."

Quotations—

"Count that day lost whose low descending sun.
 Views from thy hands no worthy action done."
 —Staniford.

"Who will not mercy unto others show,
 How can he mercy ever hope to have."
 —Spenser.

"The primal duties shine aloft like stars;
 The charities that soothe, and heal, and bless,
 Are scattered at the feet of man, like flowers."
 —Wordsworth.

"In Faith and Hope the world will disagree,
 But all mankind's concern is charity."
 —Pope.

"And learn the luxury of doing good."
 —Goldsmith.

Give five or ten minutes for expressions from
 the children as to why *they* should be thankful.
 Close with song—

"Thankful Little Children."
 —From *Give Thanks*.

TERRE HAUTE, IND.

SCIENCE IN THE TEACHING OF ENGLISH. XVI.

THE THREEFOLD PURPOSE OF PRIMARY LANGUAGE WORK.

In this discussion, the term *primary language work* will be used to name the work which is done, or should be done, in this line in the grades below the seventh.

The most important contribution which any subject can make to the child, is the contribution which it makes to his character. The study of language is fruitful in this way. The pupil's attention is here directed inward for the first time. It is the only line of work in the public school course which requires the pupil to consider his mental acts as such. Here he gets for the first time, and very early in the course if he be properly taught, a glimpse into the nature of that for which language stands. He deals primarily with the forms of thought, pure thought, of course, in a very elementary way. This means that he gets, in a limited way, a knowledge of human mind and the activities it is capable of performing; he sees, to some extent, the delicate working and marvelous powers of the human soul. One cannot be said to have character until he begins to get this view of himself.

In this line of work, he finds an opportunity for making distinctions and doing a kind of thinking similar to that which he will do in psychology and logic. He does stronger and closer thinking than that which he is called upon to do in the other subjects, because the subject-matter upon which he is here working, is more subtle. This work, if properly presented, gives him an element of moral character which no other subject can so well furnish; viz., acute intellectual judgment, without which there could be no moral judgment, and hence, no moral character; for if the element of moral judgment be left out of character, if the individual be unable to make fine distinctions in questions of right and wrong, strong moral character is impossible.

Again, there is no line of work which will contribute more to the child in the way of correct habits, if it be properly presented, than the language work. Suppose we could turn every child out at the close of his public school course with fixed habits of neatness, cleanliness, punctuality, ability to follow directions, order, arrangement or a methodical way of doing things; how quickly we could usher in the millennium! This would mean that the child, little by little, would get control over himself so that at the close of his public school course he would be self-controlled. He will never reach this ideal state, and yet it is surprising, when we think of it, to see what a

good chance the teacher of language has to fix these virtues. She can give him a neat, correct form for his written work, with a margin of proper width on the left; with no crowded margins on the right; with proper margins for paragraphs; with name and date in proper place; with no blots or soiled pages, etc. She can see to it that he puts his work in this form; call his attention to any violations of this neatness and order, thus helping him to fix correct habits. She can correct his oral language whenever he makes a mistake, thus calling his attention to his incorrect habits of speech, and leading him to watch himself and get control over himself. Whenever the child's language does not accurately express his thought, the teacher, by calling his attention to the defect and helping him to correct it, will lead him to form the habit of accuracy and truthfulness. A great many directions are necessary in good language work, and the child must be led to comply cheerfully and promptly with all of them; thus, he becomes obedient. His work must be ready when it is required by the teacher so that it may all be examined and corrected at the same time; thus, the child becomes prompt, etc., etc.

The child comes into school at the age of six, a creature of caprice, determined by outside influences, by his whims and desires. He is not a moral being. By pursuing this line of language work for eight years, his attention is directed inward upon himself; he learns to curb his desires; he learns that there is a higher law than caprice; and little by little, he becomes orderly, prompt, obedient, truthful, self-controlled and moral. This is the contribution which the correct study of language brings to character. To implant in the child these virtues; to reveal to him his spiritual nature; to quicken his intellect and give him the power to compare and contrast and make nice distinctions in thought—these are the first and greatest contributions which the language work should make to the child.

But, in the second place, the language work should give the child the ability to express his thought accurately, concisely, and appropriately in language. It should give him the mastery of the English sentence as an instrument in expressing his thought. The most severe criticism that can be made on the language work as it is now done in the public schools, is that so much of it does not contribute to this end. We spend too much time on technical grammar and not enough on the art side of language. Most public school courses of study confine the technical grammar to the seventh and eighth grades; some do not present technical grammar until the eighth grade. This is, perhaps, the place for it. The child is

certainly not prepared to study the science side of language below the seventh grade, and perhaps he should not attempt it earlier than the eighth grade or first year of the high school.

But no matter what the courses of study say, what are the facts with regard to the actual teaching of language in the school-room? You will find that a large part of the work done in the public schools, in the fourth, fifth, and sixth grades, under the head of "language work," is nothing but technical grammar.

I have seen children in the third and fourth grades, struggling with definitions of declarative sentence, interrogative sentence, verb, noun, etc. Nor does it make the work better suited to the children, or of a higher character in any way, to smother it in baby talk and say, "statement" for declarative sentence, "question" for interrogative sentence, "action word" for verb, "name word" for noun, etc. Whenever the child is prepared to understand the definition for declarative sentence, or verb, or noun he is ready for the correct names.

Again, much of the language work which is of the right character, does not contribute to the end stated above, because it is done in a lifeless, formal, half-hearted way. The child does not look upon it as *his* language. He thinks it is something to be learned but that it has no particular bearing on his own case. It is not spontaneous and so adds nothing, or very little, to the child's ability to use the sentence as an instrument in expressing his thought.

The teachers are not entirely to blame for the character of the language work. If any one will take the pains to examine the texts in language, I mean the so-called "language books" or books on language for the grades below the seventh, he will find that they are not, for the most part, extremely helpful to the teacher. He will find that the subject-matter of most of them consists of a very much diluted form of technical grammar, the dry facts of punctuation, abbreviations, use of capitals, etc., all of which he will find clothed in the "simple language" which is supposed "to make it easy" for the child. He will find further, that the writers of these books, for the most part, seem to have had no end in view. The books begin nowhere and lead nowhither. The author has not set out to accomplish a purpose by a series of logically arranged steps; he has not said to himself, concerning each point that he has put into his book, "How will the mastery of this point help the child to use the English sentence skillfully as an instrument in expressing his thought?" The result of all this is that the books are scrappy and disconnected; the work lacks organization and it can never bring about the desired result. It is, in all probability, true that the teachers of

the public schools are not well prepared to teach language, but, as a rule, teachers teach what textbooks present, and teach it better than the textbook indicates it.

This purpose of the language work cannot be too strongly emphasized. We judge a person largely by the language he uses. If one uses his mother-tongue skillfully, we consider him educated; if he makes gross errors in the use of his mother-tongue, we set him down at once as an uneducated person, a boor. This is often unjust, but is not on that account any the less sure. A person's success in life, his opportunity for doing good in the world, and his standing in the thought of educated people, depend largely on the written, and especially the spoken language which he uses. In the face of all this, is it not a shame that children pass through the grades of our public schools and on through the high school and come out without the ability to even use their mother-tongue correctly, not to say anything about using it skillfully or gracefully!

The great weakness in the language work, as it is now done in the public schools, is its failure to fix in the child this correct language habit. We waste the time and energy of children in having them *learn* definitions and principles and rules when we should be teaching them to *think* and to *express their thought accurately and appropriately*. We need not so much technical grammar, and more of the art of language. Our children are not weak in that they do not know definitions, rules, and principles; but they are weak in that they cannot use the language in accordance with these principles. They know that a pronoun, which is in the nominative relation, should have the nominative form; and they can "rattle off" the principal parts of irregular verbs fast enough to make an ordinary mortal dizzy; but at the same time, they go right on saying, "It was not me who done it."

For my part, as a teacher of English, I should like to see the following standard in language set up for the grades below the seventh: "If the child comes up to the seventh year of his school course able to write three pages of correct English, properly punctuated, capitalized, spelled, paragraphed, neat in form, etc.; and if he be able to stand and talk consecutively and extemporaneously for five minutes without using any incorrect English; his language work has been well done, no matter if he be not able to distinguish an adverb from an adjective, or give the rule for the nominative case. He will easily be able to master all he needs to know of the science of the sentence in the remaining part of his course, for he has an excellent basis for it."

J. B. WISELY.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"All human knowledge comes through human experience. Each accretion must be thrown into terms of previous experience."—DAVID STARR JORDAN.

CHAPTERS FROM THE GOSPEL OF SCIENCE.

VIII. THE SHADOW OF LITERACY.

The human infant comes into the world with scarcely more than a single sense, that of hunger. It is probably vaguely conscious of cold and warmth, hardness and softness; but its only special sense is located in the mouth, and during its early years the lips and tongue seem to be specialized sense organs, comparable to those of the lower animals in which they remain so throughout life. After a few days or weeks the infant begins to use its eyes, perhaps at first only to distinguish light from darkness. As soon as muscular coordination is acquired it reaches for the lamp or the moon indifferently and gets its first lessons in distance. At the same time it becomes susceptible to the influence of sounds, sweet or harsh, soothing or startling. It takes delight in all sorts of stimulations, by contact, by light, by sound, by flavor, without much discrimination or preference as to their character. Soon the hand becomes the instrument by which all these desires are gratified. As soon as the baby can grasp and hold an object his resources are multiplied many fold. He feels its shape, its hardness, its weight; he sees it at the same time and after some ill-directed efforts, he finally gets it to his mouth, where the specially delicate tactile sense of lips and tongue gives him a more intimate knowledge than he can yet gain by hand and eye. In the hourly, daily rounds of a baby's activities every waking moment is spent in ceaseless experiment, in the combined use of all his senses upon all objects within their reach. Every moment he is acquiring a new experience, or repeating over and over an old one. All his activities cooperate to develop and correlate his powers of observation, of judgment, of action. Nature is accomplishing a perfection of correlation which the Herbartians (and in this we all ought to be Herbartians) may imitate but cannot approach.

When the child acquires some method of locomotion he is promoted to a higher grade in Nature's school. His sphere of operation widens to the whole room, the whole house, and finally out of doors into the great, wide, wonderful world. If he should afterward travel the world over, if he should visit the north pole, even if he should ex-

tend his journey to other planets, to suns and stars, would he ever find anything quite so wonderful, quite so interesting, as when he first wanders into his own father's dooryard? It is then that he comes into his inheritance and feels that the universe is his. Here he pursues the same studies by the same methods as before. He gets acquainted with mud and sand, with water and air, with sun and shadow, with streams and clouds, with the sound and pressure of wind, with the feel and patter of rain, with grass and flowers and trees, with worms and toads and birds, with all the myriad aspects of Nature. He comes in direct contact with all these objects and learns to know them by actual personal experience. Under the stimulation of curiosity, only another name for interest, the healthy child is very happy and his education proceeds with almost incredible rapidity. He gets many falls and knocks, but everything is fish that comes to his net; nothing is lost or wasted, but every experience, pleasant or painful, does its work and makes its direct impression upon body and mind. The rain he sees and feels is not the rainfall of Central Africa but that of the Wabash Valley; the snow he plays in is not that of Siberia but the snow that falls upon his own doorstep; the plants and birds he learns about are not those of South America but those that live right here in Indiana. The peculiarity of his education is its directness. Neither teacher, nor books, nor space, nor veil, nor angels, nor principalities, nor powers, nor things present, nor things to come, nor height, nor depth, nor any other creature separate the child from the object of his study. He grasps the naked object with his own naked hand, the naked fact with his own naked mind. He learns a language but it is from the lips of those around him, and he is never afterward able to acquire such a mastery of language with so little effort.

We will suppose that the child's education proceeds after this fashion for five or six years and that then he is corralled and seated in a school-room. He is really a highly educated young person, and if any teacher thinks she can teach him as much in the next five years as he has learned in the first five, that teacher has a peculiar estimate of the value of knowledge. He is still illiterate—perhaps not wholly so, but by far the greater and better part of his education has not been in letters. To them the teacher introduces him and commonly in the school-room occurs a complete reversal of Nature's method. In place of freedom comes restraint; in place of individual development, organized discipline; in place of direct contact with nature, a book is placed in his hands and he is asked to expend his energy upon the artificial and

formal process of learning to read and write. Instead of studying things he studies what somebody says about things. The book, the author, the teacher, come between him and the object of his effort. It is wholly unnatural, yet we expect the child to keep up his interest, and wonder how he can be so bright and lively out of doors, and so dull and stupid or mischievous in the school-room. President Jordan has happily characterized this change.*

"So long as a child remains about the home of his boyhood he knows which way is north and which is east. He does not need to orient himself because in his short trips he never loses his sense of space direction. But let him take a rapid journey in the cars or in the night and he may find himself in strange relations. The sun no longer rises in the east, the sense of reality in direction is gone, and it is a painful effort for him to join the new impression to the old. He is taken from his little world of realities, a world in which the sun rises in the east, the dogs bark, the grasshopper leaps, and the water falls, and the relations of cause and effect appear simple and natural * * * * * When a child is taken from nature to the schools he is usually brought into an atmosphere of conventionality. Here he has naught to do but to imitate; not to see, nor to handle, nor create, but to remember. He is, moreover, to remember not his own realities, but the written or spoken ideas of others. He is dragged through a wilderness of grammar, with thickets of diacritical marks, into the desert of metaphysics * * * * * He is brought into a medley of words without ideas. He learns things easily by rote, so his teachers fill him with rote learning. Hence, grammar and language have become stereotyped as education, without a thought as to whether undigested words may be intellectual poison. In such manner the child is bound to lose his orientation as to the forces which surround him in life."

Another aspect of the subject is presented by Henry L. Clapp.† "Very early, even before they begin to talk, children manifest a desire to know the causes of things; and they continue to show natural curiosity until they go to school, which they seem to recognize as a place where curiosity is very much out of place, since so little opportunity is given for its exercise; curiosity is apt to be replaced by laziness and apparent dullness. Out of school they are, with rare exceptions, very thoughtful and exceedingly busy about something. They question much for the satisfaction they experience in finding reasons or explanations of various acts. The moment children step into the

ordinary school-room opportunities for questioning and spontaneous judging and willing are cut off. They are going to be trained and developed by a logical, systematic, step-by-step method, frequently called normal. Questioning, judging, willing and spontaneity in general, seem to be vested in the teacher alone. The educational code there is, 'sit still, ask no questions, learn and recite your lessons, and do what I tell you.'"

We do not argue that the child should not learn to read and to use books, or that he should be kept illiterate any longer than is good for him. The ability to read lays open the whole storehouse of accumulated wisdom and makes him the heir of all the ages. But he can appropriate and make use of only so much of it as he can correlate with his own experience, and on entering school his experience is too limited to enable him to assimilate the experience of others which is thrust upon him. Mental indigestion and dullness are the usual results. It is true that no subject is purely formal, that orthography and grammar may be taught by experience, though few there be that ever experience them. "The bottles of literature are found more convenient than the breasts of Nature," and the child is straightway weaned and stuffed with words, words, words. He passes into the valley of the shadow of literacy. Are not books cheap, handy and good? Do they not contain all wisdom? Do they not furnish the easy and royal road to learning by which the teacher himself and his teachers before him, in a long line, have reached their several stations?

Should books be thrown away? The condition of the average school to-day warrants the belief that if books could be banished for a year or two years, for a period long enough to teach the average teacher that the roots of all education lie outside of books, the gain would be incalculable. Yet it is not the use but the abuse of books which we deprecate. We do not imagine that the abuse of books is the fruitful source of all our woes; but that it is a genuine evil and the true cause of some of the more serious symptoms in our sick schools can hardly be denied. Having diagnosed, to that extent, the disease, it ought to be easy to find the remedy.

The question, "Would Free Coinage Benefit Wage-earners," is debated by Dr. Charles B. Spahr and Professor Richmond Mayo-Smith in the November *Review of Reviews*. Dr. Spahr presents the arguments for the affirmative, and Professor Mayo-Smith for the negative, of this question, in compact and well-digested briefs.

* N. E. A. address. Science, Vol. IV., p. 152. August 7 '96.

† *Popular Science Monthly*, Vol. XLIX., p. 801. October, '96.

TOWNSHIP INSTITUTE WORK FOR
1896-97.

FOURTH INSTITUTE.

GUIZOT'S HISTORY OF CIVILIZATION.

(Lectures V and VI, pp. 124-185.)

Lecture V. The Church.

1. Notice the elementary organisms in primitive European civilization:
 - a. Municipal System.
 - b. Feudalism.
 - c. Monarchy.
 - d. Church.
2. The nature of religion which developed the church.
3. Show that force is not essential to government.
4. Nature and functions of church government.
5. The essential conditions of legitimacy in all church government.
6. Explain:
 - a. How the clergy is not a caste.
 - b. How the church chose those who should exercise power.
7. Show how the church conserved the essentials to legitimacy. How the church disregarded these essentials. Was individual reason suppressed in the church? Purpose of church councils.
8. The problem before the church at the incoming of the Barbarians. How met?
9. What favored the encroachment of the spiritual power over the temporal? Consider the struggle over investitures in this connection.

Lecture VI.

1. Influence of the separation of the governors from the governed in the church. Why did this occur? How was the influence of the Christian public exerted in this period?
2. What did the church do for the advancement of the individual:
 - a. In the laity?
 - b. In the clergy?
3. How did the church benefit society:
 - a. As to slavery?
 - b. As to civil and criminal legislation?
 - c. As to the penitentiary system?
 - d. As to war?
4. Character of the influence of the church on the intellectual development of Europe.
5. The attitude of the church on questions of politics as to power and liberty.
6. Guizot on the purpose of religion in human life. To make man *submit* and to let him still be free. Explain.
7. From what view has Guizot judged the church, from the successive events which have developed it, or from the completed whole? Explain.
8. Periods and stages of the church's development. "The spirit of the priest and of the temporal baron struggled within for the mastery." Explain.
9. The work of Gregory VII. "A centralized theocracy supported by monasteries." Explain.

Lecture V. The Church.

In considering the history of civilization in Europe we should not lose sight of Guizot's four primary elements, viz.: The municipal system, the feudal system, monarchy, and the church.

Of these four elements the last was by far the

most vigorous and powerful in the fifth century—the time when our discussion begins. We should also remember that Guizot discusses the Christian church as an institution or ecclesiastical society and is not concerned with the Christian religion itself. He also considers religion not a mere feeling or form of sensibility, but an assemblage of problems and precepts and "promises which address themselves to the hopes of humanity respecting futurity." With him religion is not purely individual and internal but is universal and represented by external organizations. From this state of affairs a religious society would naturally spring up. We must have a religious organization when the matter is no longer individual. Power naturally falls into the hands of the most efficient and a religious government of some kind springs up. The whole affair is a natural process of growth and development and not of compulsion or social compact.

Neither in civil or religious government is the element of force necessary in the formation. Compulsion becomes necessary only when in the administration of affairs the individual interposes a resistance to lawful authority. Compulsion in a well ordered government is the exception, and not the rule. "Those governments which employ the most compulsion perform much less than those which scarcely ever have recourse to it." In the anarchical times of the Middle Ages, when might made right and when force was frequently used, infinitely less was accomplished than in later times when force was well-nigh eliminated.

Force is then no part of the essence of civil government. The same is true of church government. Here also there should be no compulsion. But, instead, there should be "investigation, the preaching, the teaching of religious truths; the administering to religious wants; admonishing; censuring; this is the task which religious government has to perform." It certainly could not be said that force has never been used by religion and the church. It has, but forms no essential part of religious government.

The conditions of legitimacy in church government are the same as those which obtain in civil governments. The first is that authority should be placed in the hands of the most capable, and the second that this authority should respect the liberties of those over whom it rules. By this standard all governments, whether civil or religious, should be judged. Neither condition should be lacking. The absence of either characteristic has worked disastrously in many historical instances.

Guizot protests against the use of the word *caste* in connection with the church. The principle of

heredity does not exist in the church, hence caste is impossible. The hierarchy was not exclusive. The career of the clergy was open to all and all ranks of society furnished the recruits. To this fact much of its success was due.

The church looked to the essentials of legitimacy by adhering to two principles—"the choice of the inferior by the superior, and the election of the superior by the subordinates." The second principle was not lived up to at all times and the result was detrimental.

The church enjoyed its greatest power during the time that these two principles were in full force. Too often, however, there was little respect for the liberty of the individual. Individual reason was suppressed and religious belief was manufactured by the church and rigidly insisted upon. This course was disastrous. The church could not govern "human thought, human liberty, private morals, and individual opinions" with impunity. Such repressive methods must of necessity vanish as intellectuality increases. The two are incompatible.

In the conversion of the barbarians who overran the Roman Empire in the fifth century, the church had a most formidable task. She accomplished this by dazzling their senses and working upon their imagination. The spectacular ceremonies by which these rude children of the forest were awed into religious submission are emphasized by Guizot. There is no doubt much truth in this view of the case. Certain it is that reception of Christianity was often a tribal or national affair instead of a matter of individual conscience. When Clovis and several thousand of his warriors were baptized at one time it is not at all likely that any deep or abiding convictions had seized upon them. Their so-called conversion was the result of an impulsive vow.

Yet while considering the Christianizing of the barbarians we should not lose sight of the heroic and self-sacrificing efforts of the early Christian missionaries. The work of such men as St. Augustine and Ulphilas is worthy of all commendation, but was the exception rather than the rule. Alzog, the great Catholic historian, maintains that the use of spectacles and dazzling ceremonies in the work of conversion was an evidence of prudence and discretion. In using these means he contends that the missionaries acted wisely and tactfully. However this may be, the church was injured thereby. As Michelet says, "She made herself a child to prattle with her child and translated the ineffable to it in puerile legend such as fitted its tender age." Such methods could not fail to react unfavorably upon the church.

Having thus established her spiritual supremacy

over the barbarians, it was but one short step and a very natural one for the spiritual to encroach upon the temporal. This encroachment was made easy on account of the disturbed and chaotic condition of the temporal governments. Church government was better than none at all, and hence was not only tolerated but invited. This contest between the spiritual and temporal power led to the struggle concerning investitures.

Lecture VI.

The church and its relations to the people is the subject of this lecture. The separation of the governors from the governed was, in Guizot's opinion, a very striking and vicious feature in the relations between the church and people. This separation sprang naturally from the tendency to exalt spiritual rulers and to look upon them as superior beings. The separation was a natural and gradual process.

It finally came to pass that the laity had no share in church government. They did, however, exercise a very potent influence by way of public opinion. The church of this period did little for the advancement of the laity but much for the advancement of the clergy.

One will readily concede Guizot's assertion when he says that the labors of the church for the amelioration of society were greater and more efficacious than were those in behalf of the individual. The abolition of slavery was due in no small measure to the attitude of the church. Yet it should be borne in mind that the church did at times defend the institution.

In criminal and civil legislation the church of the Middle Ages did magnificent work and there was much need of it. The methods employed in jurisprudence were crude and barbarous in the extreme. A glance will suffice to show that those codes which felt the benign influence of the church were vastly benefited thereby. Crime was punished from the true standpoint—the motive of the perpetrator. In the earlier codes provision was made for the payment of a fine or *weregeld*. This was considered complete satisfaction. The idea was entirely wrong. A crime is an offense against the state and not against the individual alone and should be punished as such.

Likewise in the penal system a great advance was made by the church. Repentance and example were the objects sought by the church for ecclesiastical offenses. She introduced the same ideas into the civil code where heretofore vindictive punishment was predominant.

In this period the influence of the church dominated all learning and not always with good results. All sciences were permeated with theology.

Religion dominated them all. Guizot tells us that this influence was on the whole "salutary" and "beneficial." This is perhaps true, but that curbing of scientific thought by the fetters of religious dogma should not be left out of the account. This intellectual despotism was in some cases as baneful as the despotism of a civil or religious nature which Guizot decries. Guizot says, "The church always ranged herself on the side of despotism." This is certainly true of the period under discussion, but it is likewise true that at times this same despotism was the best possible sedative for the prevailing anarchy.

In the period under discussion we recognize the church as passing through four periods or states: first, the imperial; second, the barbaric; third, the feudal; fourth, the theocratic. This last state was largely brought about by Gregory VII.

THOS. F. MORAN.

PURDUE UNIVERSITY, October 26, 1896.

REFERENCES:

- Emerton: *Medieval Europe*, Chaps. II, IV, VIII, XIV, XVI.
Myers: *Medieval and Modern History*, pp. 28-48, 222-238.

METHOD IN HISTORY.

- I. METHOD APPLIED TO HISTORY in the mental activity involved in coming into possession of the thought and feeling of the people in their actual struggle for freedom as manifested by events and in turn affected by events.

II. SUBJECT-MATTER.

1. The spiritual life of the people as manifested by events in history and in turn affected by these events.

NOTE.—The real material of study, then, is the spiritual struggle of the people—their thoughts and feeling—while events are the means by which this struggle may be studied. Then the emphasis is to be placed upon the thoughts and feelings, and events are to be viewed only as related to these.

III. PURPOSE.

1. To give the child an insight into the real nature of history.
2. To give him a love for the study of the race in the struggle for rational freedom.
3. To develop moral character by causing the pupil to love and honor all that is noble in his country's progress and to disapprove of the selfish, grasping and ignoble.

IV. A LESSON TO FIRST AND SECOND YEAR PUPILS.

1. The story of Roger Williams told to the pupils in a simple, though interesting and accurate way by the teacher.
 - a. Phases of the conflict.
 1. Between church authority and conscience.
 2. Between the state and individual rights.
 - a. Causes.
 1. Immediate.
 2. Remote.
 - b. Effect.
 1. Immediate.
 - a. Banishment of Roger Williams.
 - b. Founding of Rhode Island.
 2. Ultimate.

- a. An asylum for the persecuted.

- b. A beacon light lifted on the shores of New England to guide the people toward freedom of church and state for centuries. (Show that the above may be impressed upon the mind of the child by the teacher.)

V. THE RELATION OF THE ABOVE LESSON to the subject-matter and purpose of history.

VI. EDUCATIONAL VALUE OF THE ABOVE LESSON.

(See pp. 24-26, State Course of Study.)

One great fact that cannot be too strongly impressed upon the reader in this line of discussion, is that *Method*, in its true sense, is not a *device*. The reader must notice carefully the use of the term as he reads books on methods, as well as discussions in periodicals in which the term is used, because it is used in two senses, in each of which it may be true as used. In a majority of cases it is used to mean a plan, scheme or device for teaching a certain subject. In a minority of cases it means the *mental process* or *activity in mastering a subject*, or it is the activity of mind by which the *objective* is changed into consciousness and the devices for stimulating that activity. It does not mean, in either case, the forms of mental activity employed in a subject; as, sense-perception, memory, conception, judgment, and reasoning although any or all of these may be involved in the process.

(For fuller discussion of this point, re-read Professor Sandison's article in *INLAND EDUCATOR*, Vol. I. No. 1.)

Another important truth which students of this line must grasp, is, that a fact of the universe gets its significance, and hence its place in the field of organized knowledge, by the relation in which it is viewed. To say that "all knowledge is related," is only a modern way of expressing a paradox of that unique French Educator, Jacotot; viz., "*Tout est dans tout*." ("All is in all.") When I think of a particular dog called *Jip*, my attention is especially on attributes which distinguish him from every other animal and object. When I think of him as a *dog*, I am thinking of the attributes especially which unify him with a large number of objects. If I think of him as an *animal*, I am emphasizing attributes which unify him with one whole kingdom of creation; and if I think of him as a being, I am emphasizing those attributes which unify him with all objects in creation. Hence, this object possesses in him the attributes which are the basis of unity and differentiation, and where I put him in the realm of existences, depends upon the relations in which I view him. While there is infinite unity in the world, there is corresponding infinite diversity. Science is hu-

man. Man looks at a fact in a given relation, and then sees how many facts he can find that involve the same relation, then places these in groups based on certain lesser distinctions until he has these facts arranged in a logical and systematic way, and calls it a system or science. In this way man has worked out more or less fully many systems or sciences.

The thing that determines where a fact of the universe belongs in these systems of knowledge, is not something in the fact nor something which is out of it, but something which is both in it and out of it. Abraham Lincoln may be put in several classes of facts. He was a man, son, lawyer, president, according as he is identified with the notions, man, son, lawyer, or president. So the coffee plant may belong to different systems of knowledge. If it is identified with the *botany* notion, it, in that relation, is a fact of botany. If it is identified with the idea of geography, it, in that relation, is a geography fact. If it is related to the idea of history, it, in that relation is a fact of history. A branch of study, then, is not a number of facts thrown together, but a number of facts unified on a central idea or activity. This unifying activity is what we have called in previous discussions, the *Objective Method in a Subject*. The facts of a subject organized on the idea of the objective method in them, is the subject-matter of a branch of study.

In discussing "Method in History," the first inquiry is, What is the objective method in it? Professor Kemp in his recent book,—"An Outline of Method in History," says:—"The change, the movement, the progress in the life of a people is that people's history." This is a clear, formal statement of the central idea or objective method in the subject. A people's life, like an individual's life, is manifested in its deeds. A deed is the embodiment of a purpose and a purpose has folded up in it the thoughts, feelings, and desires which prompt it. Analyzed into its elements then a history fact involves:—

1. *The outward fact.*
2. *The mental changes, i. e., the thoughts, feelings, and choices which lead to it or produce it.*
3. *The thoughts, feelings, and choices which it produces*
4. *The change or movement which "1," "2," and "3" show in the stream of life.*

For example, the Emancipation of the Slaves. This was an act, a deed of the life called the United States. Certain thoughts, feelings and choices produced it. It produced certain thoughts, feelings, and choices in the people, and the whole deed produced a certain change in the whole stream of life in the United States.

The facts which embody this distinctive idea or

concept constitute the subject-matter of history. If it is United States History it is limited to the facts or deeds of the United States.

The teacher who thinks the history idea is enabled to think definitely:

1. The scope or limits of the subject-matter.
2. The divisions and sub-divisions not from an outward chronological standpoint, but from an internal vital point of view.
3. The relative importance of the divisions of the facts themselves and even the elements in a given fact.
4. And finally the essential steps in investigating the facts of the subject or the Subjective-Method in the subject.

When the teacher has grasped the *Subjective Method*, the steps in which correspond to the elements in the Objective Method stated above, he has the ground for studying and determining:—

1. The mental equipment, or the basis which the pupil has for studying the subject or the pupil's real condition in relation to history.
2. The pupil's ideal condition, or the effect which the mastery of history is to produce in him. This is what is meant usually by the purpose in teaching the subject or its educational value.

The purpose in teaching history, from the standpoint of knowledge, is to make the pupil familiar with the life of the race, or of the United States, as the case may be.

From the standpoint of mental growth or freedom, it is threefold:

(1.) *Intellectual.*

a. Primarily, to establish in the pupil the habit of acting the history activity. This is one phase of his training by means of this subject which is distinct and peculiar to this subject. It gives him discriminating power to discern facts of history, and insight which enables him to interpret present or past events, because he has the mental measure of every fact that is history. It serves the student in his study of the subject very much as the mastery of the process of bread-baking does the baker, or the mastery of the process of brick-making does the brick-maker.

b. Secondly, the purpose is to make the pupil more skillful in his imagination, memory, judgment and reasoning, since all these forms of activity are employed in mastering the facts of history.

(2.) *Emotional.*

a. To stimulate in the pupil an interest in the life of the race and of his own nation. This should be a permanent and ever-increasing feeling, and if the pupil is led into the heart of the subject it is of such a nature that this result will follow.

- b. To stimulate the feeling of patriotism.

This is no small part of the peculiar and distinct educational value of this subject. It is one of the *practical* results. No outside exercise will produce this effect, unless the pupil thinks the relation which he sustains to the nation, viz., that the nation is his larger self. History reveals this relation to the pupil, and through the proper conception of the nation and his participation and responsibility in it, he has the basis for *love of country* in the true sense. True and abiding interest in the national life, can come only through his clear perception and appreciation of his relation to it.

(3.) *Volitional.*

a. To stimulate the purpose to master this life out of which the individual springs, and which constantly reveals himself in large measure to himself.

b. To stimulate right purposes of action in harmony with the triumph of right as it is mirrored in individual and national human deeds and right purposes, opposed to deeds which exhibit wrong in men and nations.

The reason that the educational value of history is so great, is because it touches the whole round of human experience, and it does this because it deals with material which embodies the full round of life. It affords strong opportunity for character-building, because the material of history involves *consciously purposed activity*.

3. The means.

The first of these, and one of primary importance, is the arrangement of the material for the grades or the course of study. With this point, it seems to me, two very important questions arise:

a. *In what grade should we begin to teach history?* It has taken a long time to find any sufficient ground for beginning the subject before the seventh grade and that there is any material of the subject which is adapted to the grades below the seventh. It is now presented more or less systematically in all of the grades in many schools. It seems to me that there is as strong reason for beginning to teach this subject in the first grade, as for teaching any other subject.

The child lives a real life that touches slightly most, if not all, of the institutions of society, and has experienced changes in his own life as well as observed them slightly in others. He is intensely interested in stories that reveal the actual experiences of others in the different phases of life, because they reflect the experiences of his own life in some degree, or at least life in the same sense in which he is living it, only it pushes far beyond his own attainment and in different ways. Since strong moral character is the aim of education, and he has commenced this process of character-building, and since history affords one of the best

means to this end, then it should be used as early as possible. History affords an abundance of material which is adapted to the pupil's capacity. The example given in the Township Outline, page 26, for the first and second year pupils is only one of many.

b. *With what historical material should we begin?* In considering the question of means in history this is a very important point. It has two sides, and merits careful consideration from both standpoints. There are at least two places to begin; viz., with the history of the pupil's own country and with the history of the race.

Some of the reasons for beginning with the pupil's own country are:

1. That the pupil is in closer touch with the spirit of the institutions of his own country than any other.

2. That he has a better equipment for the study of the history of his own country than any other.

3. That it puts the pupil in possession of a knowledge of his own country earliest, so that if he leaves school he is not altogether ignorant of it.

Some of the reasons for beginning with the history of the race are:

1. That it gives the pupil a vague conception of the life of the race as a whole, which is in accordance with a principle stated in a previous article on Method in Geography; viz., that the mind first grasps an object as a vague whole, then analyzes it, and then synthesizes it.

2. That the nature of the institutional life of the childhood of the race is rudimentary and simple, and hence, more in accord with the child's conception of the institutions in which he lives.

3. That this vague conception of the life of the race, is the best basis or equipment the child can have for the formal study of the history of his own country or any other.

One careful arrangement of the course based on this latter view may be found in Professor Kemp's book on "Method in History."

The illustrative lesson given in the Township Outline is in harmony with the primary work beginning with United States History. The point is not so much to have them know about Roger Williams as an individual, as to give the pupil a vague insight into the larger life of the people in Roger Williams' time. His life is a particular manifestation of the five phases of institutional life, and it opens up to the child, in a particular way, some of the characteristics of religious, political, and social life in the childhood of the United States. His life also affords a good opportunity to touch all the elements in the purpose of teaching history.

This, and similar stories of great men and

women of the United States taken from the different periods of the history, is the best means of giving the pupil a vague conception of the life of the United States as a whole, thus fitting him for an analytic study of it. It is also the best means of interesting him in that object of which he thinks when he sings "America," "The Star-Spangled Banner," etc., and of turning his attention, sympathy and moral judgment upon his own deeds and the deeds of others.

A. R. CHARMAN.

I. GRAMMAR.

1. The *teacher* made his report.
2. The *teacher* made her report.
3. The *boy* studies his lesson.
4. The *girl* studies her lesson.
5. The *man* is a scholar.
6. The *lady* is an author.
7. The *sun* bursts forth in all his glory.
8. The *moon* hides her pale face.
9. He is a statesman.

II. In the first and second sentences above, the word *teacher*, so far as it is concerned, simply indicates that the object of thought expressed by it has sex but does not indicate which sex. But we know by the word *his*, in the first sentence, that the object of thought expressed by the word, *teacher*, is male sex; and in the second sentence, we know by the word, *her*, that the object of thought expressed by the word, *teacher*, is female sex. We would not always be able to judge by this other word, however, as in the sentence, *Every teacher should prepare his work carefully*.

In sentences three and four, we know the sex of the object of thought in each case by the word which expresses it. The word, *boy*, always expresses an object of thought of the male sex; and the word, *girl*, always expresses an object of thought of the female sex.

The same statement may be made with regard to the italicized words in sentences five and six. The word, *man*, always expresses an object of thought of the male sex. The word, *lady*, always expresses an object of thought of the female sex.

From sentences seven and eight, we may see that gender does not mean sex, but that it depends upon the relation the object of thought expressed by the substantive word bears to sex. Gender shows how the mind is thinking the object of thought expressed by the substantive word with regard to sex. Gender does not always indicate the actual sex of the object of thought expressed by the substantive word; as in the word, *teacher*, in the sentence quoted above, it simply indicates that the object of thought has sex, but does not indicate which sex. Again, in the seventh sen-

tence, the word, *sun*, expresses an object of thought which naturally has no sex, but in this case the mind has given it sex, so that the word, *sun*, expresses an object of thought of the male sex, in this case; and the word, *moon*, in the eighth sentence, expresses an object of thought of the female sex. These objects of thought are not male and female naturally, but in thought they are male and female and the sentence expresses the thought.

III. From the above sentences and discussion the mind reaches the conclusion that the essential ideas of gender are:

1. It is a property (form and relation) of the substantive word.
2. It shows how the object of thought expressed by the substantive word is *thought* as regards sex. It depends upon the relation between the object of thought expressed by the substantive word and sex.

IV. Gender is that property of the substantive word which depends upon the relation which the object of thought, expressed by the substantive word bears to sex. Gender is that property of the substantive word which shows how the object of thought expressed by it is thought with regard to sex.

In order to give an accurate definition, we must first name the thing to be defined. When we say "Masculine gender," we have named the thing to be defined. We must then put it into the smallest known class. When we say, "is that gender," we have put it into the smallest known class. In the third place, we must give the mark or attribute of it which distinguishes it from all other individuals in the class. In this case, we must distinguish masculine gender from feminine, common and neuter. When we say, "which denotes that the object of thought expressed by the substantive word is of the male sex," we have distinguished it from all other genders. A substantive word, masculine gender, does always express an object of thought of the male sex; it never expresses an object of thought of any other sex; the substantive word, any other gender, never expresses an object of thought of the male sex. So this definition is accurate: "Masculine gender is that gender which denotes that the object of thought expressed by the substantive word is of the male sex." It might be thought at first that the object of thought expressed by the word, *sun*, in the sentence, "The sun burst forth in all his glory," is not of the male sex. But it will be seen, as pointed out above, that this is a superficial view of it, for the mind evidently attributes male sex to that object of thought else we could not use the word, *his*, in the last part of the sentence. The fact that the

mind does give to the object of thought, *sun*, the attribute of male sex which it does not actually possess, is what makes us call the figure personification.

V. The above lesson is in harmony with the subject-matter of grammar, because the child is dealing first-hand with the sentence, which is the unit of grammar. It is in harmony with the purpose of grammar, because the child is comparing and contrasting, he is reasoning, making nice distinctions in thought, doing independent thinking, forming his own conclusions. It is in accordance with the steps in grammar, because the child examines a number of particulars, compares and contrasts; sees likenesses and differences; separates essentials from non-essentials; and arrives at a general. (Expand each of these points.) See the introduction to "A New English Grammar"—(Wisely.)

VI. The entire subject of grammar may be worked out in this way. It is an inductive subject and should be studied according to what might appropriately be called the laboratory method. For a good illustration of this method, see THE INLAND EDUCATOR for March, 1896, page 89. See, also, "A New English Grammar," pages 36-38.

J. B. WISELY.

PRINTING.

There are many times when the teacher should be able to print. Much of the work put upon the blackboard is more effective when printed. Programs, labels, names of pictures, diplomas, markings on packing boxes, and many other places where printing can best be used, might be named. Printing will be best in these cases on account of the added legibility and the various styles of letters that may be used. Teachers should be able to print well on paper and on the board.

Printed letters are easier formed than script forms, being composed of short strokes and requiring little effort to unite them. To be able to print well will aid in writing. The style of letters used will determine, to a great extent, the progress made. Many children have been required to print their work and use the forms found in their readers or spelling book. The ignorance of the teacher may be overlooked, when we consider that our instructions have never given an idea that there were any other forms for printing than the regular newspaper type. All the little hooks and finishing strokes that are not absolutely necessary to legibility, should be omitted. None but professional penmen, or sign painters attempt, or should attempt, such difficult work. At least such should not be attempted by small children. The alphabet here given has many desirable qualities,

and can be printed at a rapid rate. The forms may not be *standard*, but are far ahead of type forms for the work in hand. When lettering is attempted, a broad-pointed pen or a brush is used, and from the position in which either is held, NEARLY ALL THE STROKES MUST BE MADE FROM ABOVE DOWNWARD, AND FROM LEFT TO RIGHT; THE PEN OR THE BRUSH CANNOT BE PUSHED, IT MUST BE PULLED. If a fine-pointed pen is used the rule is not so rigid. For ease and for best results use a *stub pen* and *finger movement*. Do not hold the pen as when writing, but point the top more toward the right, and let the right side of the hand rest on the paper when beginning; after a while more speedy work can be done by resting the hand on the fingers as when writing. The main lines may be made straighter than the ones here given, but if made as these, *begin and finish nearly all of the strokes with an upward tendency, and stop with pen on the paper at the end of each stroke*. When more ability is gained, the last suggestion need not be observed if a fine-pointed pen is used or when speed is necessary. To get uniform height, rule head line, top line and bottom line, and for slant, rule paper at an angle of 10° to 20° to the left of a vertical line. These last lines may be used as spacing lines as well as guides for the slant.

Vertical letters or those slanting toward the right may be preferred, but I think these easiest made. The first few strokes given should be mastered, as they constitute nearly all that are used. The following order is suggested as an order for practice:—i n m u r l h z o c e b a d p q t v w j y g f k x s. For the capitals:—I N M O C G H Y Q Z J U V W A P R B D T L E F K S &. Try the figures as given. *Make the left side first, always*. Note the emphasized suggestions and practice carefully.

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W. T. TURMAN.

LITERARY INTERPRETATIONS.

For the completion of Mrs. McRae's article on the Message of the Vision of Sir Launfal see the first page of this issue. Taken in connection with the part published last month, it forms a fine commentary on the poem and supplements the analysis as given the text.

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FRANCIS M. STALKER, } Editors.
CHARLES M. CURRY, }

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* * *

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* * *

Our Primary Department.

It will be noticed that the primary work this month is in charge of Miss Laura Frazee, supervisor of the primary grades in the Terre Haute city schools. Miss Frazee is a teacher of successful experience and comes to her work well equipped. In the fine article with which she opens her work entitled, "The School—is it Master or Servant?" will be found stated clearly what may be designated as her pedagogical creed. It is upon the principles stated in this article as a basis that she proposes to build. In future issues very much will be given in the way of practical application of the principles enumerated in this article to the common school subjects. We believe that devices are of value to teachers only when the principles which underlie them are clearly seen. We suggest, therefore, that this article be given close, thoughtful consideration, with a view to the more detailed and concrete applications which are to follow in succeeding issues.

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The Indiana Institution for the Education of the Deaf.

The writer recently spent a day visiting this institution. It was a day most profitably spent. This part of our school system is too little understood by our people; in fact it is so little understood that it is commonly classed among the charitable institutions of the state. The state in its promise to provide for the education of all her children simply takes into consideration the conditions in every case and makes her provisions accordingly. In this case it is necessary to bring together all these children into one school where they can have the proper advantages in their education, and it is really no more a charitable institution than any other part of our public school system. This school under the care of Superintendent Richard O. Johnson, has taken rank with the best schools in the land. If I should mention the one thing that struck me most favorably during the whole day, I should say at once that it

was the happy, contented bearing of the children. They are seemingly perfectly free and joyous. I did not see a room where the stiff prison air of our common schools prevailed. There were so many interesting features that I cannot even mention them all. I was rejoiced to see the oral work with so large a per cent. of the pupils. They are taught to speak distinctly and easily, and to recognize speech from the movements of the lips. This work was seen in all its stages. Superintendent Johnson thinks that fifty per cent. of deaf-mutes can be taught to speak.

Every line of work from the kindergarten to and including the higher branches was represented. The institution is almost a complete settlement in itself. School is in session from 8 A. M. to 1 P. M. After dinner the girls are taught, by actual work, the duties of the house-wife, and the boys work on the farm, in the carpenter shop, in the shoe shop, or in the printing office. These departments are all well equipped and are in excellent condition. *The Silent Hoosier*, the weekly paper issued from the school is a model of excellence in every way. The school has the most complete sanitary conditions, and the general tone of the institution is healthful. Such an institution as this should not be handicapped in any way; it should be put upon the broadest, freest plane possible. The writer wishes to commend the spirit of the Superintendent and teachers in the attempt they are making to put the school upon a higher professional basis.

F. M. S.

**President
Cleveland
at Princeton.**

At the sesquicentennial of Princeton College in October, President Cleveland delivered an admirable address. It had the true ring of patriotic statesmanship in it, and should command the earnest consideration of every citizen. It is especially interesting to all teachers and we quote a few sentences:

"The activity of our people and their restless desire to gather to themselves especial benefits and advantages lead to the growth of an unconfessed tendency to regard their government as the giver of private gifts, and to look upon the agencies for its administration as the distributors of official places and preferment. Those who in university or college, have an opportunity to study the mission of our institutions, and who, in the light of history have learned the danger to a people of their neglect of the patriotic care they owe the national life intrusted to their keeping, should be well-fitted to constantly admonish their fellow-citizens that the usefulness and beneficence of their plan of government can only be preserved through their unselfish and loving support, and their contented willingness to accept, in full return, the peace, protection and opportunity which it impartially bestows."

The sentiments expressed in regard to the main-

tenance of national honor and integrity are timely and to the point:

"Not more surely do the rulers of honesty and good faith fix the standard of individual character in a community than do these same rules determine the character and standing of a nation in the world of civilization. Neither the glitter of power, nor the tinsel of its commercial prosperity, nor the gaudy show of its people's wealth, conceal the cankering rust of national dishonesty, and cover the meanness of national bad faith. A constant stream of thoughtful, educated men should come from our universities and colleges preaching national honor and integrity, and teaching that a belief in the necessity of national obedience to the laws of God is not born of superstition. I do not forget the practical necessity of political parties, nor do I deny their desirability."

The people who foster such sentiments as these may well believe that their government will be abiding as time.

**The Ancient
Mariner.**

We complete this month the exposition of Coleridge's *Ancient Mariner* by William A. McBeth, of Crawfordsville. Those who are interested in the study of this poem will find another discussion of it in the *Journal of Speculative Philosophy*, Vol. XIV, page 327. This article had not been seen by Mr. McBeth when he wrote his exposition of the poem, and it may be of interest to some to make a comparison.

**Township
Institute
Work.**

We are very much gratified at the many expressions of interest which reach us in regard to the comments we are furnishing each month upon the township institute work. We publish these discussions a month in advance of any of the institutes which consider them, so that the teacher may have all the help possible in the preparation of his work. The theory that comment should be left until after the teacher has done what he can with the text is all very well, provided it is the kind of comment which does for the teacher what he can do for himself. If it is, however, a carefully prepared discussion of the principles involved in the institute outline designed to supplement the work which the teacher can do for himself and open up before him new lines of thought which he would not be likely to discover by himself, it seems to us the discussion may well precede the time of the institute. We have endeavored to make our discussions of that character, and the many expressions which we have received from our readers lead us to believe that we have fairly succeeded. We do not see how any one can fail to be greatly benefited and inspired by a careful reading of Mrs. McRae's admirable analysis of the Message of the Vision of Sir Launfal. We do not see how

a teacher can fail to have the meaning of Guizot made clearer by a careful perusal of the splendid analysis and commentary by Professor Moran. Professor Charman's admirable work upon method in the various subjects, and Professor Wisely's work on grammar are of such a nature that every teacher must find new lines of thought opened up before him and old difficulties removed. To conclude with the proposition with which we began, if the comment is of the right kind there is little danger of having too much of it placed before the sensible teacher.

* * *

Kemp's Method in History.

For the past three months the Inland Publishing Company has been advertising and selling Professor Kemp's book entitled "*An Outline of Method in History.*" The Inland Publishing Company has no proprietary rights in the book, Professor Kemp having arranged for its publication and placed in our hands the first small edition. At the same time (August, 1896) the sole right to the book for the State of Indiana, was sold to D. Appleton & Co. of Chicago. At a late meeting of the Indiana State Reading Circle Board it was practically decided to adopt this work as the professional text for 1897-98. In consequence of this fact and in accordance with our arrangement with Professor Kemp, it is impossible for us to fill any further orders for the book in Indiana. All such orders should be sent to D. Appleton & Co. We hope to succeed in making arrangements for the publication of the book in other states and may be able to announce next month the result of negotiations now pending. In the meantime we have on hand about one hundred copies of the book which we can dispose of to buyers outside of Indiana.

* * *

Recommendations to the Legislature.

A pamphlet is just being issued by the Indiana State Department of Public Instruction, made up of recommendations to the General Assembly which is to meet soon. It is felt by those who are in closest touch with the educational work in Indiana that a number of changes ought to be made in the law which will place the work in some respects upon the line of progress. Superintendent Geeting in this pamphlet suggests that the weak places in our school system should be hunted out and replaced with well tested laws which will give the most strength and usefulness to the system. Having made a careful study of what he considers to be the most noticeable weaknesses he asks the General Assembly for the following legislation:

1. That a law be enacted making it the duty of the Township Trustees, and the trustees of town and city schools, to furnish high school accommodations, *free*, to all graduates from the common school branches.
2. That a law be enacted making it the duty of the Superintendent of Public Instruction to examine all teachers for license to teach in the public schools of the State, thereby making the license valid in any part of the State instead of in one county as at present.
3. That there be a law enacted providing for the qualification of County and City Superintendents.
4. That an *enabling act* be passed enlarging the work of the State Library Board (instituted by the General Assembly of 1895) whereby a district library system may be established, extending the privilege of reading good books to children in our country, village and town schools.
5. That the State Board of Education be authorized to recognize State certificates issued in other States.

Upon some of the recommendations contained in this pamphlet THE EDUCATOR has commented at some length in the past. In our next issue we shall have more to say along the lines of some of the other recommendations. There is no doubt that our school law needs revision in many particulars in order to make the system have its greatest effectiveness. Whether or not it is possible to secure proper legislation remains to be seen. The State Department certainly deserves much credit for its insistence upon progress along all the lines of school work.

SELF-GOVERNMENT OF THE SCHOOL.

In this, therefore, as in all other cases, whether pertaining to the government or to the proficiency of a school, the teacher's best resources—the only allies he can enlist, who will, in all cases, secure him the victory—are the pupils themselves. No threats, no forfeitures, no fear, no pain, though the teacher should summon these to his aid in formidable hosts, will ever expel whispering from the school, unless superadded thereto is the scholars' consent. I have witnessed proofs of the truth of this assertion too numerous to be contested. In schools where authority and superior physical power were mainly relied on, I have witnessed cases of transgression, even while the teacher was assuring me of the sufficiency of his own sovereign command to prevent them. But, if the pupils have confidence in their teacher—if they respect his talents and his attainments, and are constantly drawn toward him by the attractions of a filial affection—their cooperation can be obtained, and that will prove all-sufficient.—*Horace Mann.*

When you change address ask the post-master to forward papers as well as letters. Unless this is done papers often remain dead in the office, while the subscriber writes to the publishers asking for another copy.

INDIANA STATE BOARD QUESTIONS FOR OCTOBER, WITH DISCUSSIONS.

ARITHMETIC.

1. What distinction do you make between solving a problem by rule and by principle? Which is preferable and why?
2. When the result of two factors and one of them are known, how find the other? Illustrate. Show how this principle is used in proportion, in square root.
3. What is commercial discount? Of what advantage is it in business? How computed?
4. A merchant bought a bill of goods for \$1,000.00, with 10, 5 and 5 off for cash. He offered \$800.00 net cash for the goods, which was accepted. Who, if either, was the loser, the buyer or the seller? How much?
5. A boy invested \$25.00 in calves, at \$5.00 each. Develop this work as to a pupil beginning this form of division.
6. Find the cost of a carpet $\frac{3}{4}$ yd. wide, at \$1.50 per yard for a room 17 ft. long and $14\frac{1}{2}$ ft. wide, there being a waste of 1 yard in matching the pattern, you being instructed to lay the carpet in the most economical way.
7. What rate of premium does 7% stock bear in market when an investment pays 6%?
8. A piece of property sold for \$11,320.00; the terms were \$3,200.00 cash, \$3,500.00 in six months, \$2,500.00 in ten months, and the remainder in one year three months with 7% interest. What was the whole amount paid?
9. At what rate should a three month's note be discounted to produce 8% interest?

1. In solving a problem by rule one only follows the directions of the author of some text having in mind only the obtaining of the result. A great many rules are made for practical use and are void of principle but are found by experiment to give the correct result. In solving a problem by principle the method is determined by the nature of the problem itself and the one solving it is left to his own resources as to the manner of attack. It is preferable in school work to solve by principle, for one can not solve a problem by principle without understanding it, but he may solve it by rule and know nothing of the relation of the processes which are involved. In business transactions one is about as well as the other, for the result is all that is required.

2. When the product of two factors and one of the factors is known the other is found by dividing the product by the known factor; *e. g.*, If the product of two factors is 36 and one of them is 9, the other is found by dividing 36 (the product) by 9 (the known factor). The quotient, 4, is the other factor. In simple proportion this is used in that it is known that the product of two known factors is equal to the product of one known and one unknown factor. Then the unknown factor is found by dividing the product of the first two known factors by the other known factor. In compound proportion it is known that the product of three or more known factors is equal to the product of the same number of factors one of which is unknown. The unknown is found in the same manner as described above. In square root we have the product of two equal factors to find one of them.

3. "Commercial Discount" is a term used to distinguish it from true and bank discount, and

has the same idea in it as trade discount. Its advantages in business are that it stimulates the tendency to cash transactions. The discounts are such that it generally pays the purchaser to borrow money at a fixed rate of interest in order that he may pay cash. The seller generally makes his prices on basis of allowing a certain length of time to the purchaser for payment. If the purchaser can pay sooner he gets discounts accordingly.

The first discount is always counted on the marked price of the goods. If there is a second discount it is made on the price of the goods after the first discount has been deducted, and so on if there is a series of discounts.

4. 10, 5 and 5 off on \$1.00 would make the cost on each one dollar \$.81225. On \$1,000 the cost would be 1,000 times \$.81225, or \$812.25. Then the seller lost the difference between \$800 and \$812.25, or \$12.25.

5. First have the pupil see that if one calf costs \$5.00, two calves cost \$10.00, three calves cost \$15.00, four calves cost \$20.00, and five calves cost \$25.00. He can do this because he has had multiplication. Then lead him to see that there are just as many calves as there are \$5.00, having him see that there are five \$5.00 in \$25.00, and therefore \$25.00 is the cost of five calves. Hence if one calf cost \$5.00, \$25.00 will buy five calves. He can now be led to divide \$25.00 by \$5.00 in order to obtain the result, which is 5.

6. If the strips of carpet are laid the long way of the room it will take 7 widths to fill out the $14\frac{1}{2}$ feet. This would take $39\frac{3}{4}$ yards ($7 \times 17 + 3$) + 1 yard waste in matching = $40\frac{3}{4}$ yards. If the strips of carpet are laid the short way of the room it will take 8 widths to fill out the 17 feet. This would take $38\frac{3}{4}$ yards ($8 \times 14\frac{1}{2} + 3$) + 1 yard waste in matching = $39\frac{3}{4}$ yards. The last way would take the least amount of carpet, $39\frac{3}{4}$ yards at \$1.50 per yard = \$59.50 cost of carpeting the room.

7. 7 % stock to pay 6 % on the investment would have to be bought at 116 $\frac{2}{3}$ %. Then the rate of premium is 16 $\frac{2}{3}$ %.

8. The whole amount paid would be:

Cash	\$3,200 00
Amount on \$3,500 for 6 months @ 7 % int	3,622 50
Amount on \$2,500 for 10 months @ 7 % int	2,645 83
Amount on \$2,120 (remainder) for 1 yr	
and 3 months @ 7 % int	2,305 50

TOTAL \$11,773 83

9. If the note is for \$100 due in 3 months and the one purchasing the note wishes his investment to pay him 8 % he can afford to pay \$97.98 for it. Then the discount is \$2.02. In order for the discount to be \$2.02 on \$100 for 3 months (and 3 days of grace) the rate must be 7.8 %, as we see it

would make no difference as to the time of the note, for it would be discounted for the time any how.

[We have been asked if we did not make an error in the solution of the seventh question in Arithmetic in the "State Board Questions" for August. We did; the error, however, was in the multiplication and not in the principle. In the problem, 26 is multiplied by $4\frac{1}{2}$ and the product obtained was 127 instead of 117. Then 3 times 117 (instead of 3×127) = 351 (instead of 381.) Then 3.51 times \$1.75 (instead of 3.81 times \$1.75) = \$6.14 $\frac{1}{2}$ (instead of \$6.66).]

HISTORY.

Discuss the subject of history under the following heads:

1. As a culture study.
2. As a study for development of character.
3. As related to other subjects.
4. As an aid to teaching morals.
5. Compared with other common branches as tending to give mental training.

1. Matthew Arnold defines culture as "an acquaintance with the best that has been thought and said in the world." The aim of history is to acquaint scholars with the best that has been thought, said, and done, by the human race in its efforts to better its condition. The thought, feeling, and action constitute the matter and substance of history; *i. e.*, the scholar studies history, and understands history just in proportion as he *himself takes into his own life* the beauty of the Greek, the justice of the Roman, the charity and love of the Christian, and so forth. In primary history he nourishes his thought and feeling from the noble thought, feeling and effort of noble men and women. It is apparent from the foregoing that history is one of the very best means for culture.

2. Character is what one is in moral quality; and history exhibits the slow but steady progress of man in attaining to ever higher and higher stages of moral thought and conduct. It is in history that one comes to see and feel that progress has been attained for humanity only through effort, sacrifice and courage, and by adhering to the highest conception of right and duty to our fellow-men. By seeing and feeling this the scholar comes to act it also; *i. e.*, he comes to realize in his own life more and more these high moral qualities, which, as already stated, constitute character.

3. History is most intimately and directly related to literature and geography. Literature exhibits the ideals of a people, the end for which they are struggling—the ideal which continually goes before them and beckons them on. The best of any historic age is reflected in its literature before it disappears. In the road of progress Literature and History are collaborators,—the one—Literature—goes before blazing out the road; the other

—History—comes after, widening the path and planting institutions on the way. Geography exhibits the theater in which all this evolution of human life takes place; it shows the forces which have unceasingly played on man and affected his character, his occupations, his habits of mind; and to some degree his morals and religion. Without an understanding of the influence of all these physical surroundings it is impossible to correctly understand his history.

4. History is preeminent as a means for teaching morals. The entire matter and substance of the subject is moral in character; *i. e.*, it deals with man in his relations to his fellow-men, and impresses the fact that all advancement, all social and individual betterment is secured by working with our fellows in building up a truer and better school, or church, or State, or store, or farm, or home. The final great lesson of history is that there is in the world one great moral order, which it is the duty of all to know and to advance. This must not be seen as a mere abstraction, but as a living principle, guiding the daily lives of the scholars.

5. History may fairly claim to stand on a democratic footing with the other common school branches as a means of mental training. It trains some faculties of the mind better than any other subject could do, and vice versa.

History gives excellent training in weighing probabilities, and in drawing conclusions from data which are not absolutely certain. This is the kind of reasoning most needed in practical life. It affords excellent training to the imagination; for example, to see "in the mind's eye" the gradual unfolding of American life from the Atlantic seaboard in 1607-1620—widening to the Pacific Ocean and extending down to the present time is excellent training for giving wings to the imagination. Properly taught it results in giving to scholars strong and accurate memories.

READING.

1. Why is the process of teaching the *new words* in the primary grades so important? Why not so important in the higher grades? 10.
2. Define *preparation*, *presentation* and *application*. Show how a knowledge of these terms will help the teacher in her reading work. 10.
3. "To read in the fullest way is to construct pictures as vividly as the author did: see clearly all the truths he embodied in the selection; in short, the reader must live what the author lived in the production." 10.
Show that this is true.
4. Discuss the reading work in the State Course of Study. 10.
5. To what extent can the reading work of the seventh year be devoted to the study of literature? 10.
6. Read a selection to the County Superintendent. 50.

1. We are to put the child in the way of teaching himself, by creating tendencies which enable him more readily to pass from the known to the unknown. Thus, knowing the word *mat*, the child

should be able to help himself considerably in learning the new word *hat*. In the higher grades the mind adapts itself more easily to various modes of work.

2. By *preparation* we mean the clearing away all the preliminary difficulties and carefully organizing the subject-matter, by *presentation* we mean the process of getting all the points effected by the preparation properly before the mind of the pupil, by *application* is meant the bringing of all these points into touch with the pupil's own life. A knowledge of these points helps the teacher to move definitely toward a clearly perceived result.

3. The author in a selection embodies life. To read the selection means to live over again what the writer has embodied. This life is expressed in pictures, which must be constructed vividly in order to reach the author's meaning.

4. The work in reading in the State Course of Study is based on the thought that the object of the work is to give the pupil the power to *readily interpret* written or printed language. To this end it is suggested that the best selections in the readers be used, and that frequent use be made of supplementary work from outside sources. These selections should possess intrinsic value and be of interest to the pupil, so that a liking for the reading of good books may be inculcated.

5. By the time that the seventh year is reached the pupil should have mastered the language to such an extent that much of the seventh and eighth years may be devoted to the study of literature in its more elementary aspects. The power of picturing vividly the images suggested by the writer, the principles of figurative language as shown by a study of a half dozen of the leading figures, some of the more important facts of rhyme, metre, stanza construction, etc., and above all an appreciation of how everything the author does moves toward some more or less definite end, are some of the lines along which inquiry may go.

ALCOHOL AND NARCOTICS.

1. Why is it that in certain diseased conditions of the system alcoholic stimulants may be prescribed by a physician with great benefit, while the same person in health can not use these stimulants with any safety?
2. How can strong drink become a cause of insanity?
3. How does the effect of the continued use of alcohol upon the coats of the blood-vessels tend to produce serious diseases of the kidneys and the liver?
4. The use of tobacco has caused many cases of virulent "delirium tremens;" how can you account for this?
5. What are the evil effects of narcotics upon the respiratory systems?

1. Alcoholic stimulants as well as arsenic and other poisons produce known effects upon the system and whenever these effects are wanted the physician may secure them by means of alcohol. But a person in health ought not to expect to be any more safe in the use of alcohol than any other

poison. On this subject Dr. N. S. Davis of Chicago, says: "I have been constantly engaged in the practice of medicine a little more than fifty years and have demonstrated by the last forty years of actual experience that no form of alcoholic drink is necessary or desirable for internal use in either health or in any of the varied forms of disease; but that health can be better preserved and disease be more successfully treated without any use of such drinks."

2. On this question Maudsley's *Physiology and Pathology of the Mind* says: "The influence of alcohol upon the mental functions furnishes the simplest instance in illustration of the action of foreign matter introduced into the blood from without. Here, where each phase of an artificially produced insanity is successively passed through in a brief space of time, we have the abstract and brief chronicle of the history of insanity, because the action of the poison upon the nutrition of the nervous centres is quick and transitory; but we have only to spread the poisonous action over years, as the drunkard does, and we may get a chronic and enduring insanity."

3. By deteriorating the coats of the blood-vessels and thus interfering with the very important processes carried on by these organs in relation to the blood passing through them.

4. Dr. Abraham Spoor ascribes it largely "to the exasperating agency of tobacco upon the human nerves and organism."

5. Dr. Richardson, speaking of respiration, says: "I found by experiment that in presence of alcohol in blood the process of absorption of oxygen was directly checked, and that even so minute a quantity as one part of alcohol in five hundred of blood proved an obstacle to the perfect reception of oxygen by the blood."

GEOGRAPHY.

(Any Seven.)

1. Dr. Brooks classifies the methods of studying Geography under four heads: Analytic, Synthetic, Inductive and Deductive; which do you regard as best? Why?
2. What influences have the geographical conditions of the Mississippi Valley had upon the marvelous growth of the states and cities bordering upon it?
3. To what extent would you use, or permit to be used, the question in the text-book on Geography? Why?
4. Does the inclination of the earth's axis towards the sun ever vary? Does its inclination towards the north pole ever vary?
5. What is the U. S. system of land surveying?
6. Name three industrial occupations for which the New England States are peculiarly fitted.
7. What part of the Territory of the U. S. was formerly known as "No Man's Land?" To what organized territory does it now belong?
8. What geographical reasons make the Monroe doctrine a necessity for the U. S.?

I. Inductive. It is the natural course for mental development, exercising the faculties in their natural order. It gives a personal knowledge of

things, thus forming a basis for the deductive method.

II. 1. Ease of communication due to the presence of navigable rivers. A level country with no dense forests.

2. Great natural resources—including fertile soil—coal, iron, etc.

3. Healthful climate with sufficient rainfall.

4. Water power in some parts.

III. It would depend upon the character of the questions. As a rule the questions in text-book would not be used.

1. The questions generally given refer only to parts of the text.

(2.) They do not arouse thought.

(3.) They do not bring the pupil in contact with the thing to be studied.

IV. Yes.

Apparently no. The pole describes a circle around the pole of the ecliptic once in 25,800 years. The relation of the axis of the earth to the pole of the earth does not vary.

V. The surveying and the publishing of descriptions and maps of the topographic features and natural resources by the United States Geological Survey and Coast Survey.

VI. Manufacture. Commerce. Fishing.

VII. A strip of land north of the northwestern part of Texas. To Oklahoma.

VIII. (1.) The isolation of the United States from Europe.

(2.) Its connection with the American Republics.

(3.) As a means of defense from foreign invasion.

(4.) Formerly as a means of defense against encroachment of foreign powers on adjoining territory.

PHYSIOLOGY.

(Any five.)

1. Define physiology.
2. Describe the sweat-glands and explain their function.
3. What is the function of the tympanic membrane?
4. What is the function of the sclerotic coat?
5. How is the sense of smell produced?
6. What is paralysis and how is it caused?
7. What is the objection to alcoholic drinks?
8. The poison of snake bites has a depressing effect on the nervous system. What is the advantage or disadvantage under these circumstances to administer large doses of whisky in case of snake-bite?

1. Physiology is that one of the biological sciences which treats of the functions of the organism in question, whether it be animal or plant.

That part of general physiology which treats of the functions of the organs of the human body is human physiology. In this latter sense the term is usually applied.

2. The sweat-glands are long, simple, tubular glands. The body of the sweat-gland consists of a coiled knot of this tube immediately under the dermis, or else in its deepest layers. The single duct then runs through the dermis and epidermis in corkscrew-like windings to the surface of the skin.

The function of these glands is primarily to regulate the evaporation of moisture from the skin and so determine the constancy of the body temperature. Incidentally they eliminate small quantities of waste material.

3. The tympanic membrane is a delicate membrane stretched across the inner end of the auditory meatus. Its function is to receive the sound vibrations impinging on it, and to transmit them to the chain of ossicles touching it.

4. The function of the sclerotic coat is to protect the contents of the eyeball, to give shape to the globe of the eye, and in front to serve as the transparent cornea.

5. Just how the sense of smell is produced is still a matter of question. There are found in the epithelium lining the nasal passages, among the ordinary epithelium cells peculiar sensory cells, cylindrical cells connected with a sensory nerve at the lower or inner end and ending in a delicate filament at the upper end which projects slightly into the nasal passage. In some peculiar way this end filament is probably affected, which gives rise to odor sensations.

6. Paralysis as the term is usually applied is the temporary or more frequently permanent laming of certain voluntary muscles. The control of the will is annihilated. While the paralysis manifests itself in the muscles, the cause of it is probably always a nervous one. Apoplexy is a frequent cause. Tumors on the brain have been known to cause it; lesions of important nerve tracts will also result in the paralysis of these muscles to which such injured nerves are distributed.

8. With reference to administering whisky in cases of snake-bite, it is desirable to remember that few snakes are poisonous. The poisonous snakes of Indiana are the almost extinct rattlesnake, the copperhead, and the water moccasin. The host of other snakes which abound with us including even the formidable spreading viper are perfectly harmless. Reported instances of snake-bite are almost in every case unimportant scratches of these harmless forms. In case of a genuine poisonous bite most authorities agree that the administration of a large dose of whisky may enable the body to withstand the sudden and violent attack of the poison.

GRAMMAR.

accomplished American, much known and much esteemed in this country, the late Mr. Charles Sumner, says what particularly struck him in England was the large class of gentlemen as distinct from the nobility, and the abundance amongst them of serious knowledge, high accomplishment and refined taste—taste fastidious, perhaps, says Mr. Sumner, to excess, but erring on virtue's side.

1. Classify the above sentences as to use and form.
2. Select the principal clause and give its entire subject, and predicate.
3. Select the first two subordinate clauses and state how they are used.
4. Select the participles in the sentence and state how each is used.
5. Select the appositives and state how they are used.
6. (a) Distinguish between coordinate and subordinate conjunctions. Illustrate in sentences.
(b) Distinguish between copulative and disjunctive conjunctions. Illustrate in sentences.

1. On basis of use or meaning, the sentence is declarative. On basis of form as determined by the form of the thought, it is a complex sentence.

2. The principal clause is the words, "An accomplished American, much known and much esteemed in this country, the late Mr. Charles Sumner, says." The entire subject of the clause is the words, "An accomplished American, much known and much esteemed in this country, the late Mr. Charles Sumner." The entire predicate of the principal clause is the word, "says;" and the copula is implied in the word, "says."

3. The first subordinate clause is the words, "That what particularly struck him in England was the large class of gentlemen as distinct from the nobility." The second subordinate clause is the words, "the abundance amongst them of serious knowledge, high accomplishment and refined taste—taste fastidious, perhaps, to excess, but erring on virtue's side." (Subject and copula understood.) These clauses are both direct objective modifiers of the verb, "says," in the principal clause. There are other clauses in these.

4. The words, "known" and "esteemed," are participles, used as adjective modifiers of the word, "American." The word "erring," is a participle, used as an adjective modifier of the word, "taste."

5. The expression, "the late Mr. Charles Sumner," is an appositive modifier of the word, "American." The expression, "taste fastidious, perhaps, to excess, but erring on virtue's side," is an appositive modifier of the word, "taste."

6. A coordinate conjunction is a conjunction which expresses the relation between ideas or thoughts of equal rank; *e. g.*, Five *and* four are nine. Christianity appeals to the human heart *and* its soul is love.

A subordinate conjunction is a conjunction which expresses the relation between thoughts of unequal rank; *e. g.*, God was angry with the children of Israel for he overthrew them in the wilderness.

A copulative conjunction is a conjunction which expresses the relation of addition. The typical copulative conjunction is the word, *and*; *e. g.*, The time is short *and* we must improve it.

A disjunctive conjunction is a conjunction which expresses the relation of opposition. The typical disjunctive conjunction is the word, *but*; *e. g.*, The river is deep *but* we can ford it.

SCIENCE OF EDUCATION.

(Any five.)

1. What is the general relation of the intellect, the feelings and the will?
2. Define the will.
3. To what extent does good moral character depend on strength and decisiveness of will? Show that your answer is true.
4. A man finds a sum of money and later discovers whom it belongs to. His desire to retain the money is stronger than his desire to preserve his integrity. Under these conditions, will he decide to retain the money? Give reasons for your answer.
5. Is the strength of the desire determined in any degree by the will itself? Explain your view fully.
6. Does the desire impel or compel the will?
7. What is meant by inner freedom?
8. What is meant by transcendental freedom of the will? Does the child possess this freedom?

1. Intellect, feeling and will are three aspects or phases of consciousness. All three are always present in every consciousness, but the consciousness is named by the predominant phase.

2. Will is choosing a desire which we believe possible of attainment and selecting means for the realization of the end or motive thus chosen. It includes attention, choice, analysis of purpose, selection of means and impulse.

3. An act is a moral act only in so far as it belongs to the voluntary acts of man. Man is responsible for his actions only in so far as he assents to them. The intent is the measure of the ethical in an act. Good moral character and strong decisive voluntary life are one when the voluntary life is based upon good ends. A person might have great strength and decisiveness of will and still be a person of bad character.

4. He will not necessarily decide to retain the money under these conditions. There might be other conditions, such as knowledge of the consequences, and his choice in the case might not be a moral act at all. He possesses the power in himself to choose or reject any desire.

5. Desire is a stage in a process of which will is really the culmination. Of course in so far as impulse, mere feeling, interest and desire are factors of will, will might be said to determine desire.

9. It rather impels than compels if it can be said to do either.

7. "Inner freedom is the obedience of the will to its highest moral incentive." It is choice that implies a proper conception of the end. It is the choice of a moral act.

8. It is the idea that will and self are one. It is the idea of self-determination or self-activity as

inherent in the self. It is the idea that the human being is born potentially free; that he bears that within him which is to work out his destiny. Yes, the child possesses this freedom.

SPECIAL NOTICE.

For six months beginning with November, the questions in the Science of Education will be based on the following:
 For November, 1896, not confined to any particular text.
 For December, 1896, on McMurry's General Method.
 For January, 1897, on McMurry's General Method.
 For February, 1897, on McMurry's General Method.
 For March, 1897, on McMurry and DeGarmo.
 For April, 1897, not confined to any particular text.
 For the same examinations, the questions in "general culture" will be based on Guizot's History of Civilization, covering one of the Township Institute outlines at each examination. See order of State Board of Education, May 14, 1896.

TIPPECANOE MONUMENT.

As a result of the contributions of the children last year there is in the treasury of the association one hundred seven dollars and twelve cents. While this is not as great an amount as the committee had hoped it would be, yet it is a fair start and we are convinced that should each child in Indiana who has not contributed, give at least one cent, enough money will be received to erect a monument worthy the memory of the heroes who lie buried on this historic battle field. This is an enterprise in which the whole state is interested. And we hope the boys and girls will erect a monument on Indiana's famous battle field toward which they can point with pride, as the work of their hands.

Wherever the matter has been presented to the children they have shown their patriotism by the spirit with which they have entered into it. We ask the teachers of the state to present it to their pupils, let them know that each penny given goes for no purpose but the monument, and that upon their efforts depends the success of this enterprise, and its success will be all that can be expected. All money contributed should be given to the County Superintendent of each county as soon as possible, for a contract will be made for the monument the first of January, 1897, based on the money in the treasury at that time. Hoping that each teacher will cooperate with the committee in erecting this monument,

We remain respectfully,

J. M. SULLINS, President,
 WORTH REED, Treasurer,
 J. L. GLASCOCK, Secretary,
Executive Committee.

Superintendent George R. Dwelley, of Watertown, Mass., commenting upon the improved reading and spelling by the Pollard Synthetic Method, says, in his January, '96, annual report: "This method is a perpetual and successful appeal for spontaneous activity in the child."

In another column see advertisement of the Western Publishing House, Chicago, Illinois.

EDUCATIONAL INFORMATION.

M. C. Marshall succeeds Russell Wyne as principal of the schools at Kent, Indiana.

Miss Nellie Fay, a teacher of Warrick county, died at her home at Yankeetown on October 16.

The next session of the National Educational Association will be held at Milwaukee, July 6 to 9, 1897.

The Convocation of Mothers, in connection with the Chicago Kindergarten College, is to be held November 11, 12 and 13, instead of October, 21, 22 and 23, as previously announced.

Professor O. L. Lyon, formerly of Greencastle, Indiana, is at the head of the Normal and Business Institute at Steelville, Missouri. This school has opened this year with a very large attendance and with excellent prospects under the new organization. THE EDUCATOR takes pleasure in announcing that its readers will be favored during the year with a series of articles by Professor Lyon.

The friends of H. A. Wierwille, who was for a time a student in the Indiana State Normal School, will be glad to learn that he graduated as valedictorian of the class of '96 from the Los Angeles (Cal.) State Normal School. During his senior year he was editor-in-chief of *The Normal Exponent*, and he has just been elected principal of the Central School of San Bernardino, California, for a term of four years.

Superintendent C. B. Gilbert of St. Paul, Minnesota, has recently been elected Superintendent of the schools of Newark, New Jersey. Superintendent Gilbert has been at the head of the St. Paul schools since 1889 and has been very successful in his work. Superintendent Gilbert was a member of the Committee of Fifteen on Correlation of Studies in Elementary Education, and at the present time is President of the Department of Superintendence of the N. E. A.

The University of Chicago publishes every Friday the *University Record*, which contains all official actions, notices, reports, religious and other current events, and the calendar for the institution. A recent number contains an interesting article by Principal J. J. Findlay, of the College of Preceptors' Training College, London, upon the "Study of Education," and also an article upon the "Ethics of the Book of Job," by Professor Thomas F. Bay of San Francisco, California.

The executive committee of the State Teachers' Association of Indiana met on the 16th of October and formulated a definite program for the holiday meeting. The program is a good one and excellent subjects have been assigned for discussion to

some of the leading thinkers and writers of the state. Child-Study will constitute the center to which the thought of the meeting will be directed. The meeting will convene on the evening of December 29th, and headquarters will be at the Denison.

We have received a course of study for Township High Schools as prepared by Superintendent H. D. Shideler, of Huntington County. This course of study marks out work for four years in the Township High Schools, and is very suggestive and ought to prove very helpful to the teachers for whom it was intended. In the preparation of the manual Superintendent Shideler was aided by J. B. DeArmitt, Albert Colclessor, John Reber, I. B. Heaston, John E. First, Thad. D. Anglemyer, James M. Large, E. E. Gard, D. A. Reynolds, P. H. Beck and J. V. Sees.

We have been favored with a copy of *The Clarion* (Penn.) *Jacksonian* of October 5, which is largely given over to an account of an educational mass meeting held at that place on October 2 and 3. Most of the papers read are printed entire. *Clarion* is the seat of one of the Pennsylvania State Normal Schools, the members of whose faculty are making themselves felt in the educational world. The county superintendent, W. A. Beer, under whose direction the meeting was held, is a tireless worker. Each speaker took for his topic "My Educational Creed." Principal A. J. Davis, Professors Thomas, Rugh, Holbrook, and others participated.

The schools of Ashland, Kentucky, are evidently in good condition and in safe hands. A copy of the last annual report has just reached us. The present superintendent, J. G. Crabbe, has been in charge for six years. In commenting upon the work of the year he says, in reference to language and reading, "the I-see-a-cat and Ned-has-a-top style of story and language recitation is being forgotten and children are becoming interested, intensely interested, in the chaste, delightful fables, folk-stories, fairy tales, myths, and other classics for boys and girls, while their language and conversation speak volumes for the improvement they have so pleasantly made."

Superintendent W. P. Shannon has just entered on his twenty-first year in the Greensburg schools with an increased attendance of one hundred and sixty pupils over any previous year. The series of articles by Mr. Shannon which have appeared in THE INLAND EDUCATOR mark him as one who believes that Nature Study is a study of Nature—not of books. Himself free from hobbies, his teachers are as unharrassed by formalities, and are as skillfully guided in intelligent work as any corps of

teachers in the state. The high school is in charge of Professor George L. Roberts of the Indiana University. His teaching is confined to biology; specialists being employed in each of the departments of mathematics, Latin, English, drawing and penmanship. An increased enrollment of forty students; an orchestra of fourteen pieces; a new assembly room capable of seating 300 students, and more boys than girls in a high school, are some points to be proud of. The grammar grades are in charge of Professors Chas. T. Powner, and John H. Bobbitt, both State Normal men of experience who are paid high school salaries in order to retain them in the work of the grades.

The schools of Kentucky are at work this year under the following compulsory education law:

SECTION 1. That every parent, guardian, or other person in the State of Kentucky, having control of any child or children between the ages of (7) seven and (14) fourteen years, shall be required to send such child or children, annually, (8) eight consecutive weeks, to some public or private day or night school for children. Provided, however, that this act shall not apply in any case where the child has been or is being taught at home in such branches as are taught in public schools for a like period of time and subject to the same examinations as other pupils of the district or city in which the child resides, or whose physical or mental condition renders his or her attendance impracticable, or who is excused by the trustees of the public school district, or the board of education of the city in which the parent, guardian, or person having control, resides, upon its being shown to their satisfaction that the parent, guardian, or person having control was not able, by reason of poverty, to clothe said child properly, or that he or she has already acquired the ordinary branches required by law, or that there is no white school, in case of white children, or colored school, in case of colored children, taught within (2) two miles by the nearest traveled road.

SEC. 2. Any parent, guardian, or person failing to comply with the provisions of this act shall forfeit to the use of the schools in the city, town or common school district in which said child resides, a sum not less than five (\$5) dollars nor more than twenty (\$20) dollars for the first offense, nor less than (\$10) dollars nor more than fifty (\$50) dollars for the second and every subsequent offense, and costs of suit.

The Superintendents Club of Southern Indiana met in New Albany October 23 and 24. The following members were present: State Superintendent D. M. Geeting of Indianapolis; J. H. Tomlin of Shelbyville; W. D. Kerlin of Martinsville; C. E. Morris of Salem; R. A. Ogg of Greencastle; Will

Featheringill of Franklin; E. H. Mark of Louisville, Ky.; P. P. Stultz of Jeffersonville; W. W. Parsons of the Indiana State Normal School, and W. H. Hershman, of New Albany. The entire day Friday was consumed in visiting the schools of the city. At 4 o'clock the first meeting was called, and a discussion of the New Albany School System occupied the entire time of the meeting. The Superintendents were universal in their praise of the spirit which seems to prevail between teachers and pupils. The teaching process was quite satisfactory and up to date. The High School building was regarded as inadequate to accommodate all the pupils that attend the schools. The Superintendents recommended most heartily a new High School building and the employment of at least three more teachers.

At the second meeting the Course of Study adopted for cities and towns was taken up and discussed. It was the opinion of the Superintendents that the new Course of Study is headed in the right direction, and that it will serve as a nucleus for better work throughout the State and other States. Some of the members thought that perhaps correlation in this course was overdrawn, that for the sake of correlation the unity of subject in a few instances had been broken; that correlation could not profitably exist except within the unity of the subject. Also the myth in the lower grades had its supporters and opponents. The next meeting of the Club will be held at Salem the first Friday and Saturday in October, 1897.

The seventh annual meeting of the town and city superintendents of Indiana will be held in the Century Club rooms at the Denison Hotel, Indianapolis, on November 12, 13, 14. A great deal of interest attaches to this meeting from the fact that the main topic of discussion will be the Course of Study which was presented last year. The superintendents have been studying and testing this course and an interesting and valuable discussion may be expected. President Andrew S. Draper, of the University of Illinois, will address the meeting on Friday afternoon on "City School Systems" and on Friday evening will speak on "Teachers' Licenses—the State License system of New York." A large number of general topics has been arranged for discussion: (1) Duties of a Superintendent in Instruction of Teachers. (2) Uniform Course of Study for High Schools of the state. (3) How to get Teachers to teach. (4) Should children in primary grades do more work? (5) What would be helpful to School Boards in making an equitable adjustment of Teachers' salaries? (6) State Normal, No. 2. (7) How shall we get patrons more interested in the schools? (8) What are some of

the hinderances we meet in our work? (9) Larger facilities for training teachers. (10) Are we working our pupils too hard? (11) Algebra, Geometry and Latin in the eighth year. (12) How shall we improve the work in Spelling? (13) Advantages and disadvantages of *mid-year* promotions. (14) The ideal recitation. (15) The advisability of forming a Society for the Advancement of Child-Study in Indiana. (16) How shall English be taught in the grades so as to give the child the best training? (17) How far should the Superintendent control the work of the Teacher? (18) How can Teacher's Meetings be made most successful? (19) Young People's Reading Circle Work in the City Schools. (20) Teachers' Reading Circle Work in the City Schools.

RIGHT MOTIVES.

The moral faculties increase or decline, strengthen or languish, by the same law of exercise. In legislating for men, actions are mainly regarded; but in the education of children, motives are everything, *motives are everything*. All, this side of the motive, is mere mechanism, and it matters not whether it be done by the hand, or by a crank. There was profound philosophy in the old theological notion, that whoever made a league with the devil, in order to gratify a passion through his help, became the devil's property afterwards. And so, when a teacher stimulates a child to the performance of actions, externally right, by appealing to motives intrinsically wrong, he sells that child into bondage to the wrong motive.—*Horace Mann.*

BOOK REVIEWS.

A TOPICAL ANALYSIS OF UNITED STATES HISTORY. By Jesse Lewis, Professor of History and Geography in the State Normal School, Warrensburg, Mo. Chicago: A. Flanagan. Price, 50 Cts.

This book presents a topical analysis of the most important events which have taken place in United States history from its discovery to the present time. The author's plan is to present an outline of the principal events of some historic movement, and then follow the outline with copious references from both school histories and more general works bearing upon these topics. The economic, social, religious, educational, and governmental channels of life all receive attention, and the outline will be a very valuable assistance to any teacher or pupil of history who has been accustomed to think of history as found in a single text-book.

The author's effort to show the growth in American thought and feeling gives life to the book, and renders it a real help in placing both teachers and pupils on the right road to a correct study of American history.

E. W. K.

STORIES OF NEW JERSEY. By Frank B. Stockton. New York, Cincinnati and Chicago: American Book Co. 254 pages, cloth, 12 mo. Illustrated. Price 80 cents.

It was a happy thought that led the American Book Co. to commence preparing a series of books designed to teach state history through story, and it was a still happier thought that placed at least some of the work in the hands of such delightful story-tellers as Frank Stockton and Joel Chandler Harris.

The plan seems to be the presentation of a series of true narratives so closely interwoven with the more formal history of the state as to have real historic value, and at the same time bright enough to animate the dull recital of discovery, settlement and growth.

In the volume before us, Mr. Stockton, in his own original way tells us something of the native Indians, something of early exploration and settlement, and a good deal about incidents and persons associated with the Revolutionary war.

The twenty-four stories composing the book are upon such subjects as "The Winning of the Prize," "Story of a Girl and a Hogshead," "The School-master and the Doctor," "A Jersey Tea-Party," "The Man Who Coveted Washington's Shoes," "The Man in the Auger Hole," "Molly Pitcher" and "The Morristown Ghosts." The stories come quite within the range of a child's interest and comprehension, yet they are by no means too juvenile for mature readers. The type is easy and clear and there is a profusion of half-tones by such artists as Kemble, Carleton and Granville Smith.

W. W. S.

ELEMENTS OF PLANE AND SPHERICAL TRIGONOMETRY. By Edwin S. Crawley, Assistant Professor of Mathematics in the University of Pennsylvania. Published by the author, Philadelphia. \$1.00.

The edition before us has been revised and enlarged. It contains as much trigonometry as is given in the Freshman courses in most colleges. The book is written in a clear and interesting manner. The very large number of exercises is well selected and well graded. Quite a large number of concrete problems is introduced. These will greatly help to keep up the interest of the student by showing him the application of the subject to the affairs of life. A very noticeable and certainly a very valuable feature is the large number of illustrative problems either partially or completely solved. These models give the student an insight into the best methods of attack and solution. Ratio definitions of the trigonometric functions applicable to angles of any magnitude are introduced at the very beginning. This has a marked advantage over the double set of definitions so frequently given. There is a very interesting

chapter on DeMoivre's theorem and some consequent deductions. The book furnishes such a course as will meet the needs of all classes of students in their first trigonometry work.

ROBERT J. ALEY.

PHILADELPHIA, PA.

NUMBER AND ITS ALGEBRA. By Arthur Lefevre, Instructor in Mathematics, University of Texas. Boston: D. C. Heath & Co., 1896.

For some time there has been a growing interest in questions concerning the origin, nature and laws of number. In this book the attempt is made to answer some of these questions. Much of the book is certainly but a restatement of what must be common-place in nearly every mathematical class-room of the land. The treatment of the extension of the *number concept* so as to include negative, surd, imaginary and continuous number is good. Why the author should have felt it necessary to introduce either *new* or *unusual* names for these well-known concepts, the reader is at a loss to know. Nothing in the book gives evidence of any gain as a result of the new terms. The chapter on numerical operations is worth careful reading. Some of the definitions are especially good. The last seventy-five pages of the book might well be omitted as it has little or no connection with the preceding part.

Teachers of arithmetic who have not studied higher mathematics will find the book a helpful one. It will cause a thoughtful readjustment of number ideas, and open up new fields of thought.

ROBERT J. ALEY.

PHILADELPHIA, PA.

QUERIES AND ANSWERS

CONDUCTED BY SUPERINTENDENT J. C. GREGG,—
Brazil, Indiana.

All readers of THE EDUCATOR who are mathematically inclined are invited to take part in the discussions of this department. In order to facilitate matters a few simple rules should be observed:

1. Use paper of note size if possible.
2. Write only on one side of the paper.
3. Address all matter intended for "Queries and Answers" to Superintendent J. C. Gregg, Brazil, Ind. This will save time which in the competitive work is often of consequence.
4. Number all solutions to correspond with the problems.
5. Condense solutions as much as is consistent with clearness.

PRIZE PROBLEMS.

CREDITS.

First prize awarded to George Telle, Salem, Ind.
James B Murphy, 1, 2, 3.
O. W. Herr, 1, 2, 3.
John E. Lung, 1, 3.
Philip Kabel, 1, 2, 3.
W. R. Hornbaker, 1, 2, 3.
H. T. Herrick, 1, 2, 3.
Michael Robinson, 1, 3.

SOLUTIONS.

36. Call the larger square A and the smaller B and the radius of the circle r.

The diagonal of A will be r and therefore its area is $\frac{1}{2}r^2$(1)

The side of B is one-half of the diagonal of the square in the semi-circle; hence its area is one-half of that square, or $\frac{1}{2}$ of $\frac{1}{2}r^2 = \frac{1}{4}r^2$(2)

Hence, from (1) and (2)

$$A : B :: \frac{1}{2}r^2 : \frac{1}{4}r^2$$

$$:: 5 : 4$$

Q. E. D.

Ed.

37. The large wheel will make 8 revolutions while the smaller makes 9. Hence, the same cogs will be together every 8 revolutions of the large wheel, or 3 times per second, which is 10,800 times per hour.

MICHAEL ROBINSON, Otwell, Ind.

38. Let x=number of miles.

$$\text{Then } \frac{x}{3} - \frac{x}{5} = 32 \text{ min. or } \frac{8}{15} \text{ hrs.}$$

$$\therefore x=4 \text{ miles.}$$

Id.

39. After careful investigation the result seems to be 4189.4634 cubic inches. Mr. John E Lung gets 4189.8965 cubic inches.

Ed.

40. The least number which can be divided by 408 and leave 306 remainder is $408+306=714$.

$714 \div 374$ leaves 340. Add 408 gives 1122 and this divided by 374 leaves 0, and we see that the remainders increase 34 each time we add 408, and to get the remainder 136 we must add to 1122 four times 408, which gives 2754, which satisfies the first two conditions. We must now add the L. C. M. of 408 and 374, which is 4488, and gives 7242, the required number.

Ed.

CREDITS.

J. E. Lung, 36, 37, 38, 39.

Michael Robinson, 37, 38, 39.

E. B. Scott, 39.

Boon S. Brandon, 37.

J. R. Hood, 37, 38.

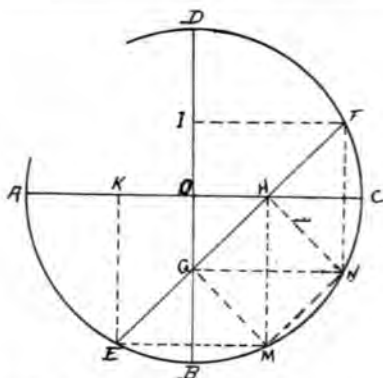
J. C. Clark, Co. C, 11th United States Cavalry, Whipple Barracks, Arizona, 37, 38.

O. W. Herr, 36, 37, 38.

George Telle, 36, 37, 38, 39.

FIFTH SERIES.

Inscribe the squares I F N G and H M E K in the semicircles D C B and C B A respectively. It



is seen that points H and G become the centers of the above squares.

G H F is diagonal of square I F N G and G H = H F.

E G H is diagonal of square H M E K and G H = G E.

$$\therefore E G = G H = H F.$$

Q. E. F.

O. W. HERR, Rossville, Ind.

$$2. \text{ Volume of ball} = 30^3 \times \frac{4}{3} \pi = 4500 \pi$$

$$\text{Volume of } \frac{1}{8} \text{ ball} = 1125 \pi.$$

Letting a=height of segment we have the equation:

$$\pi a^2 (15 - \frac{a}{3}) = 1125 \pi$$

$$a^3 - 45a^2 + 3375 = 0.$$

Reducing by Horner's method,

$$a = 9.792 \text{ inches} = \text{height the ball will rise.}$$

JAS. B. MURPHY, Georgetown, Ind.

3. (See fig. for No. 1.)

It is evident that G H N M is a square inscribed in the quadrant B O C, and its diagonal G N is the side of the square G F, and therefore its area is half that of the square G F, or $\frac{1}{2}R^2$.

The other square in a quadrant will have R for its diagonal and its area will be $\frac{1}{2}R^2$, and the areas of these two squares are to each other as 5 to 4, as in No. 36.

Ed.

A SPLENDID SCHOOL OF METHODS.

This school, The New School of Methods in Public School Music, held its Western session August, 10-22, in the rooms of the Oakland Club in Chicago. The faculty included the authors of the "Natural Course in Music," Mr. Frederic H. Ripley and Mr. Thomas Tapper of Boston, with Mrs. Emma A. Thomas of Detroit, Michigan; Miss Nannie C. Love of Muncie, Indiana, and Mr. P. M. Bach of Milwaukee, Wisconsin, as assistants. In addition to these were Mr. William L. Tomlins, Mr. W. S. B.

Mathews and Miss Marie Hofer of Chicago, Mr. Herbert Griggs of Denver, and others.

The school was large and enthusiastic, about one hundred and fifty students from all parts of the Union being in attendance. These were mostly supervisors of music in city schools, many of whom had had years of valuable experience in the work.

The morning session opened with devotional exercises and roll call. Then came chorus practice under the direction of Professor Griggs. As the school numbered many fine solo voices, the chorus singing was exceptionally good.

Following the chorus drill, Mr. Ripley gave a daily lesson on the pedagogy of school music. His long experience as teacher in a large school composed entirely of boys, enabled him to give much practical advice on the management of boys and their voices during that troublesome period from fourteen to seventeen. This is one of the chief problems in the teacher's work, and his words were listened to with great interest.

Mrs. Thomas then illustrated the practical use of the charts in the school-room, using the school as a class of children. Mrs. Thomas is a woman of magnificent presence and her personal magnetism is felt by all who meet her. Her work, full as it was of methods and devices, was very helpful to all and especially so to beginners in the work.

Following this lesson, Mrs. Louise Preece gave a lesson and drill in physical culture. Mrs. Preece is the author of a system of calisthenics intended expressly for school-room drill and her own upright poise and strong graceful movements are a living proof of the excellence of her methods.

Mr. Tapper next addressed the students on the subjects of theory, terminology and musical form, history of music and musical literature, in short, whatever topics were suggested by the work of the other teachers and by questions put by the students. In person, Mr. Tapper is somewhat below medium height, and so youthful in his appearance that one is continually surprised at the erudition and power displayed in his lecture. He speaks rapidly, yet clearly and fluently, and his work was greatly enjoyed by all. He is a fine composer and translator, and is the author of at least two books which should be in every musician's library. During his extensive periods of travel and study in Europe, he has collected much of the material for the Natural Music Course from the highest sources, yet some of the finest songs are from his own pen.

The interest of the morning sessions culminated in the daily lectures by William L. Tomlins of Chicago, the well-known leader of the Appolo Club, the leader of the great children's chorus at the World's Fair, and at present teacher of an immense class of children chosen from among the poorer classes

whom, by the power of music, he is lifting to higher and purer lives. As an exponent of the best thought in education Mr. Tomlins stands in the front rank.

The afternoon sessions were devoted to advanced work in the course by Mr. Ripley, Miss Love, Mr. Bach and Mr. Griggs, with a charming daily talk and drill on rote songs for primary work by Miss Hofer. There were also classes in harmony and composition by Mr. Tapper, drawing by Miss Gilbert, and penmanship by Mr. C. C. Curtis of Minneapolis.

The school was very ably managed by Mr. C. C. Birchard of New York with competent assistants. The social side of life was not neglected, and the concerts, receptions and a delightful trolley ride through the magnificent parks and boulevards were enjoyed by all.

While the theoretical and practical instruction in the particular system of music under discussion was never lost sight of, yet the thought constantly impressed upon us was that of the moral, æsthetic and spiritual culture which should be the prime object throughout the entire education of the child, developing and training soul as well as mind, and that much of this higher culture can and must come through the power of music to brighten, purify and uplift the soul.

The entire material of the Natural Music Course is of the choicest character. Neither in words or music is there a trashy phrase from beginning to end. The feeling of the students toward the course was plainly shown in their pleasure at hearing the good news, which came during the session, that Milwaukee and Cincinnati had adopted it.

It was with keen regret that we parted from our able instructors at the close of the school, modified however, by the hope of meeting them next year in a longer session still more largely attended.

LAURA H. LINDER.

(Tri-State Normal College, Angola, Ind.)

FREE SCHOOLS.

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COUNTY INSTITUTES.

A few reports of county institutes were received too late for insertion in our special supplement of last month. We give them here:

Posey County, August 24. The Posey County Institute was held during the week beginning August 24, in the assembly room of the Mt. Vernon High School building. President Parsons and Professor Alecy were the instructors. It was one of the best institutes ever held in this county. The enrollment was about 140. President Parsons talked on "The Science of Education" and Shakespeare's "Tempest." Professor Alecy took for his subject "Method" and "Arithmetic." The work of both instructors was most excellent and instructive. The assembly room, which will comfortably seat nearly 400, was always filled to overflowing. A fine program of music added to the enjoyable features of the institute. On Wednesday evening we were favored with a lecture by President Joseph Swain of Indiana University,

which was a treat to all. Thanks are due County Superintendent Greathouse for furnishing his teachers with such a profitable and enjoyable institute.

Huntington County, August 24.

The Huntington County Institute opened August 24 and closed August 28 with an unusually good attendance. All felt an interest and took an active part throughout the week. There was a lecture on Monday evening by Dr. T. J. Bassett. Tuesday evening W. W. Pfrimmer gave a very interesting entertainment. The instructors were Professor E. W. Kemp, History; Professor T. J. Bassett, Ethics; and Superintendent R. I. Hamilton, Arithmetic, Geography and Reading.

Grant County, September 7.

Grant County Teachers' Institute was held September 7-11, 1896. The instructors were Robert J. Alecy and J. M. Culver. In addition to this we had with us Dr. Swain of Indiana University; County Superintendent W. B. St. Clair of Stark County; Ex-County Superintendent F. M. Huff of Warren County, and D. M. Geeting, Superintendent of Public Instruction. The attendance was the largest ever recorded in the county. The interest and attention were excellent. The work done in this institute will certainly be felt in our schools.

Boone County, August 31.

The institute in Boone County convened August 31. The instructors were Professor L. J. Rettger of the Indiana State Normal School and Superintendent W. F. L. Sanders of the Connorsville schools. The attendance was good and the instruction excellent. Professor L. M. Lilson had charge of the work in music. State Superintendent D. M. Geeting was present one day and talked on "The Relation of the Teacher to his Profession." Dr. J. P. D. John gave his fine lecture on "Did Man Make God or Did God Make Man?" on Wednesday evening.

Johnson County, August 17.

The Johnson County Teachers' Institute assembled in the Franklin High School building, August 17, 1896, with an enrollment of 140. The average attendance for the week was 140, the enrollment reaching 150. The number of teachers employed in Johnson County being 140, the average attendance was 100 per cent. Prof. W. E. Henry, head of the English department of Franklin College, and Mrs. Sarah E. Tarney-Campbell were regular instructors. President Joseph Swain gave a talk on the needs of a higher education. Pro-

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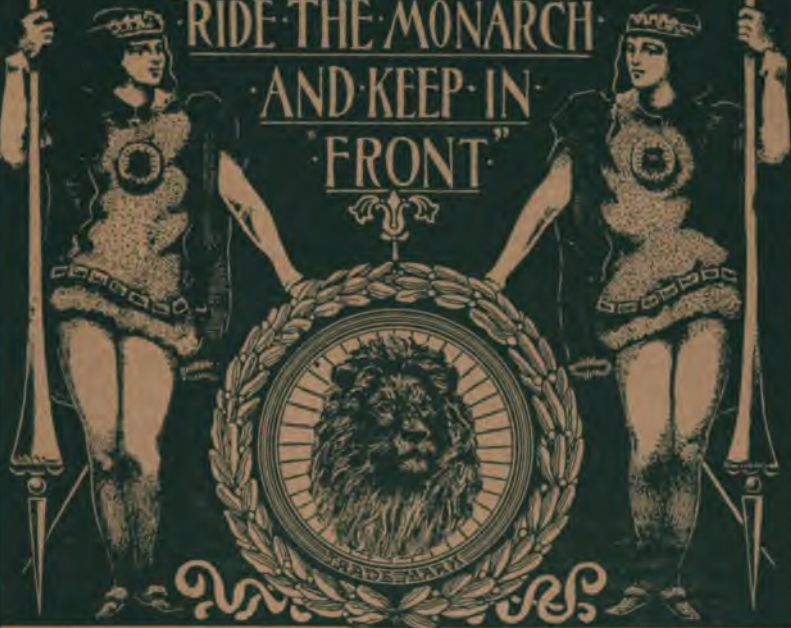
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THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

DECEMBER, 1896.

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A JOURNAL FOR THE PROGRESSIVE TEACHER.

III.

DECEMBER, 1896.

No. 5.

A CHRISTMAS CAROL.

Everywhere, everywhere, Christmas to-night!
Christmas in lands of the fir-tree and pine,
Christmas in lands of the palm-tree and vine,
Christmas where snow-peaks stand solemn and white,
Christmas where corn-fields lie sunny and bright.

Everywhere, everywhere, Christmas to-night!

Christmas where children are hopeful and gay,
Christmas where old men are patient and gray,
Christmas where peace, like a dove in its flight,
Broods o'er brave men in the thick of the fight.

Everywhere, everywhere, Christmas to-night!

For the Christ-child who comes is the Master of all,
No palace too great and no cottage too small,
The angels who welcome him sing from the height:
"In the City of David, a King in His might."

Everywhere, everywhere, Christmas to-night!

Then let every heart keep its Christmas within,
Christ's pity for sorrow, Christ's hatred of sin,
Christ's care for the weakest, Christ's courage for right,
Christ's dread of the darkness, Christ's love of the light.

Everywhere, everywhere, Christmas to-night!

So the stars of the midnight which compass us round
Shall see a strange glory, and hear a sweet sound,
And cry: "Look! the earth is aflame with delight,
O, sons of the morning, rejoice at the sight."

Everywhere, everywhere, Christmas to-night!

—PHILLIPS BROOKS.
(From *Poems*.)

DIFFERENCES IN PUPILS FROM THE TEACHER'S POINT OF VIEW.

J. MARK BALDWIN.

Professor Experimental Psychology, Princeton University.

[Fourth Paper.]

COMING to consider the so-called "sensory" youth of the age between ten, let us say, and sixteen—the age during which the training of the secondary school presents its great problems—we find certain interesting contrasts between this type and that already characterized as "motor." And the study of this type of youth is the more pressing for reasons which I have already hinted in considering the same type in the earlier childhood period. It is necessary, first, to endeavor to get a fairly adequate view of the psychological characteristics of this sort of pupil, before we proceed to discuss the treatment which he ought to receive at the teacher's hands.

The current psychological doctrine of mental "types" rests upon a great mass of facts, drawn in the first instance from the different kinds of mental trouble, especially those which involve derangements of speech—the different kinds of "aphasia." The broadest generalization which is reached from these facts is that which marks the distinction, of which I have already said so much, between the motor and the sensory types. But besides this general distinction there are many finer ones; and in considering the persons of the sensory type, it is necessary to inquire into these finer distinctions. Not only do men and children differ in the matter of the sort of mental material which they find requisite, as to whether it is pictures of movements on the one hand, or pictures from the special senses on the other hand, but they differ also in the latter case with respect to which of the special senses it is, in this case or that, which gives the particular individual his necessary cue, and his most perfect function. So we find inside of the general group called sensory no less than four relatively distinct cases, all of

which the teacher is likely to come across in varying numbers in a class of fifty pupils.

There are three aspects of the case which are so common to all the cases of sensory minds, whether they be visual, auditory, or other, that I may set them out before proceeding further.

In all these matters of type-distinction, one of the essential things to observe is the behavior of the attention. We have already seen that the attention is implicated to a remarkable degree—in what I called "fluid attention" in an earlier paper—in the motor scholar. The same implication of the attention occurs in all the sensory cases, but presents very different aspects: and the common fact that the attention is directly involved affords us one of the best rules of judgment and distinction. We may say, generally, of the sensory children, that the attention is best, most facile, most interest-carrying for one of the senses, leading for this sense into preoccupation and ready distraction. This tendency manifests itself, as we saw above, in the motor persons also, taking effect in action, speed, vivacity, hasty generalization, etc.; but in the sensory one it takes on varying forms which I shall describe under the several sense heads below. This first aspect of the typical distinctions of minds we may call "the relation of the 'favored function' to the attention."

Then, second, there is another and somewhat contrasted relation which also assumes importance when we come to consider individual cases; and that is the relation of the "favored function"—say movement, vision, hearing, etc.—to *habit*. This is a common enough observation, that habit renders functions easy, and that habits are hard to break: indeed, all treatment of habit is likely to degenerate into the commonplace. But, when

looked at as contrasting with the attention, and as capable of interpretation in the light of this contrast, certain very forceful truths emerge from the consideration of habit.

In this general introduction, we may say that habit bears a twofold relation to attention: on the one hand, *facile attention shows the reign of habit*. The solid acquisitions are those with which attention is at home, and which are, therefore, more or less habitual. But, on the other hand, it is equally true that *attention is in inverse ratio to habit*. We need to attend least to those functions which are most habitual, and we have to attend most to those which are novel and only half acquired, that is, to those which habit has not fully conquered. We get new acquisitions mainly, indeed, by strained attention. So we have this contrast of possible interpretations in all cases of sharp and exclusive attention—the contrast represented by the following questions: *does the attention represent a habit in this particular action of the child?—or, does it represent the breaking up of a habit, an act of accommodation?* In each case these questions have to be intelligently considered; but it is serviceable to know that in the main the very distinction between the two functions of the attention in different individuals indicates type. The motor type, usually, when uninstructed and not held back, uses his attention under the lead of habit. It is largely the teacher's business in his case, as we saw, to get him to hold, conserve, and direct his attention steadily to the novel and the complex. The sensory person, on the other hand, shows the attention obstructed by details, hindered by novelties, unable to pass smoothly over its acquisitions and in general lacking the regular influence of habit in leading him to summarize and utilize his mental store in general ways.

Then, the third general aspect of the topic is this: the person of the sensory type is more likely to be the person in whom positive derangement occurs, in the higher levels, and from the more refined social and per-

sonal influences. This, for the reason that this type represents brain processes of greater inertia, complexity, greater relative synthesis, greater liability to obstruction. They are slower, and proceed over larger brain areas. I hope to return to this, in a special paper dealing with types of mental defect in children, and the proper treatment of them.

With these general remarks, then, on the wider aspects of the distinction of types, we may now turn to the particular special sense-types which occur among sensory individuals.

1. *The Visual Type*. The so-called "visuals" or "eye-minded" people among us are numerically the largest class of the sensory population. They resort to visual imagery whenever possible, either because that is the prevailing tendency with them, or because, in the particular function in question in any special act, the visual material comes most readily to mind. The details of fact regarding the "visuals" are very interesting; but I shall not take space to dwell upon the details. The sphere in which the facts regarding the pupil of this type are important to the teacher is that of language, taken with the group of problems which arise about instruction in language, in abstract symbolism, and its relation to mathematics, logic, etc.; and finally, the sphere of the pupil's *expression* in all its forms. Then, from all his discoveries in these things, the teacher is called upon to make his method of teaching, and his general treatment of this student, characteristic and appropriate.

The visual pupil usually shows himself so, predominately in his speech and language functions; he learns best and fastest from copies *which he sees*. He delights in illustrations put in terms of vision, or actually drawn out on the blackboard for him to see. He understands what he reads better than what he hears, and he uses his visual symbols as a sort of common coin into which to convert the images which come to him through his other senses. In regard to the movements of at-

tention, we may say that this boy or girl illustrates both the aspects of the attention-function which I pointed out above: he attends best, that is, most effectively, to visual instruction when he exerts himself; but, on the other hand, it is just here that the drift of habit tends to make him superficial. As attention to the visual is the most easy for him, and as the details of his visual stock are most familiar, so he tends to pass too quickly over the new matters which are presented to him, assimilating the details to the old schemes of his habit. It is most important to observe this distinction, since it is analogous to the "fluid attention" of the motor scholar; and we will see that some of the very important questions regarding correlation of studies, the training of attention and the stimulation of interest depend upon its recognition. *Acquisition best just where it is most likely to go wrong*; that is the state of things. The voluntary use of the visual function gives the best results just where the habitual, involuntary, slipshod use of it gives bad results, and tends to the formation of injurious habits.

For example, I set a strongly visual boy a "copy" to draw. Seeing this visual copy he will quickly recognize it, take it for very easy, dash it off quickly, all under the lead of habit; but his result is poor, because his habit has taken the place of effort. Once get him to make effort on it, however, and his will be the best result of all the scholars, perhaps, just because the task calls him out in the line of his preferred function. We will find the same antithesis coming out in connection with other varieties of sensory scholars, so I shall reserve, for the present, the lessons which I think we may learn from it.

We may say, therefore, in regard to two of the general aspects of mental types—the relation of the preferred function to attention, on the one hand, and to habit, on the other—that they both find emphatic illustration in the pupil of the visual type. He is, more than any other sensory pupil, a

special case. His mental processes set decidedly toward vision. And he is important the more because he is so common. Statistics are lacking but possibly half of the entire human family in civilized life are visual in their type for most of the language functions. This is due, probably, to the emphasis that civilization puts upon sight as the means of social acquisition generally, and to our predominantly visual methods of instruction.

The third general fact is also illustrated by this type: the fact that mental obstruction and derangement may come easily, through the stress laid upon vision in the person's mental economy. I need not enlarge upon the different forms of special defect which come through impairment of sight by central lesion or degeneration of the visual centres and connections. Suffice it to say, that they are very common, and very difficult of recovery. The visual person is often so completely a slave to his sight, that when that fails either in itself or through weakness of attention he becomes a wreck off the shore of the ocean of intellect. And when we consider the large proportion, just mentioned, of pupils of this type, the care which should be exercised by the school authorities in the matter of favorable conditions of light, avoidance of visual fatigue, proper distance adjustments in all visual application as regards focus, symmetry, size of objects, copies, print, etc., becomes at once sufficiently evident to the thoughtful teacher, as it should be still earlier to the parent. There should be a medical examination, by a competent oculist, before the child goes to school at all, and regular tests afterwards. School examiners and boards should have qualifications for reporting on the hygienic conditions of the school as regards sight. The bright glare of a neighboring wall before a window, toward which children with weak eyes face when at their desks, may result not only in common defects of vision but in the resulting mental and moral damage; and the results are worse to those who

depend mainly on vision for the food, drink, and exercise, so to speak, of their growing minds.

In regard to the detailed treatment of these visual pupils—to this I shall return later on.

PRINCETON, N. J.

EDUCATION AND CRIME.

The subject of crime has demanded the attention of man ever since God set the criminal's brand upon the brow of the bloody-handed Cain. To-day it is no less a living issue, when society is called on to protect itself against the horde of daring criminals who seek to destroy all that is sacred in our civilization.

Without stopping to argue the question, whether the tendency toward evil in man was originally created in him, and found expression in his defiance of his Creator's positive edicts, or the outgrowth of his natural and social environment resulting from the necessary responsibility attached to his voluntary actions, it is the purpose of this paper to discuss conditions as they exist to-day, and to endeavor to find what influence education can have in preventing crime, or in reforming the criminal.

The study of criminal statistics has been used as a basis of argument, both by those who have thought of crime as decreasing and the moral tenor of the world growing better, and by those, also, who think that humanity is rapidly degenerating, and that society will soon end in universal anarchy.

However much these diverse views may find support in criminal statistics, it is the scientific and careful study of such statistics that has given rise to the comparatively modern idea that there is a close and intimate relation between crime and those conditions of social life in which it appears.

Read in the light of reason, criminal statistics show that crime increases in the aggregate from year to year, with variations at different periods, but that crime increases faster than the population under normal conditions, is a lesson not yet read from that source of information. An authority on the subject says, "It is evident that the level of criminality in any one year is determined by the different conditions of physical and social environment, combined with the hereditary tendencies and occasional impulses of the individual; and that the element of fixity in criminal sociology consists in asserting, not the fatality of human actions, including crimes, but only their necessary dependence upon natural causes, and therewith the possibility of modifying effects by modifying the activity of those causes."

It is proposed by skilled criminologists to divide society into three classes: the first class to include those who commit no crime; the second, those who are not stable in right doing, whose imperfect education and low sense of morality allow them to continually oscillate between right and wrong, virtue and vice; and the third and lowest class to include all those who, are to all appearance devoid of every sense of right, who being without any education, morally and materially destitute, engaged merely in the animal struggle for existence, inherit from their parents and transmit to their children a morally diseased organism, which in itself is the parent of increased degradation.

It is this last and lowest class that furnishes the largest percentage of our criminals, and for whom the most effective punishment will be found to consist in such measures as will minimize their opportunities for crime and prevent the multiplication of their degenerate progeny. Confinement for life or isolation from society will accomplish this greatly desired end. Nature has no law of her own for improving or protecting the race. The fine double rose, the Spitzenberg apple, the Jersey cow, the Percheron horse, are the results of the genius and talent of man applied through ages of patience to directing and controlling the powers of nature toward attaining results higher than those which nature unaided can give. On the other hand, just as the farmer removes noxious weeds from his field for the sake of the corn, and unpromising plants from the hot-bed in favor of a better yield from what remains, so has it been necessary to clear out Five Points and the Sand Lots by police force, that decency and good order might take the place of criminality and social anarchy, and so may it yet be necessary to wholly separate the lower criminal classes from the common walks of human life, in order to bring our social order up to anything like an ideal state.

To the second class, named above, education may turn with great hope of so modifying the intellectual and social environment of the individual, as to enable him to resist temptation, to do less of wrong, and to elevate his posterity somewhat above his own moral plain.

It is well to ask ourselves the question, how far education, considered in its fullest sense, can reform an individual and modify a character which parentage has given him. The intelligent and really conscientious teacher knows that the force of education in forming the permanent habits of children, lies in the line of eliminating their anti-social tendencies, rather than in constructing new social forces within the individual.

In close touch with the needs of degenerate life, and in perfect
 "v above

the school, the superintendent of the school, the school board, the parents, the children, the community, the state, the nation, the world, the universe, the God of the universe, the God of the school, the God of the child, the God of the parent, the God of the community, the God of the state, the God of the nation, the God of the world, the God of the universe.

The school is a place where the child is taught to read, to write, to think, to feel, to act, to live. It is a place where the child is taught to be a citizen, to be a worker, to be a man, to be a woman, to be a child of God.

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It might be well, at this point, to review some of the statistics in order as far as possible to determine the moral and intellectual condition of the children who are confined within the walls of the prison and the gallows.

The great State of Massachusetts, as early as 1850, began seriously to consider the question of the criminal and his responsibility in that state, writing a report on the subject. "Its uneducated population grows the more guilty of the crime," while her near neighbor, Connecticut, attributes the inventive genius of her people to the public schools established for the children. The report of the prison officials of Massachusetts in 1875, showed that eight per cent. of the crime in that state was committed by those who had no education, or a very imperfect

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Now, if we take the report of the prison officials of Massachusetts in 1875, and compare it with the report of the prison officials of Massachusetts in 1875, we may find that the percentage of crime committed by those who had no education, or a very imperfect one, is the same. The report of the prison officials of Massachusetts in 1875, showed that eight per cent. of the crime in that state was committed by those who had no education, or a very imperfect one. The report of the prison officials of Massachusetts in 1875, showed that eight per cent. of the crime in that state was committed by those who had no education, or a very imperfect one.

prisoned. All these prison statistics—and they are enough for the purpose of illustration—read in the light of reason and intelligence, lead us to the correct and inevitable conclusion that a large per cent. of our criminal population is illiterate.

It is a fact, well established, that man's actions are the direct outcome of his physio-psychic organism, influenced by his immediate environment. Our whole system of education, to-day, is based upon the fundamental principle that through the proper agencies, man's social environment may be modified so as to develop the individual into a better state of being. Our whole instruction is intended to assist the individual in living a useful and worthy life. Education aims to make the State better by making the individual better. How well it has succeeded, the history of the intellectual development of the human race must tell, in its record of the gradual evolution of the intellectual man from the thralldom of a superstitious ignorance. In our country, the supposed crimes of witchcraft and magic have been obliterated by the wide-spread influence of popular education. The history of the world's civilization shows that the gradual increase of the gentleness of the people diminished bloodshed and crime.

As the thoughts of men grow broader, they, themselves grow better. The experiences of life teach us that in order to lessen the danger from outbursts of passion, it is better to control and modify these tendencies in children, than to attempt to subdue them by force after they have become the fixed habits of life. School houses have a better influence than jails. School teachers are more useful than police. The smallest agency that prevents crime is much more beneficial to humanity than the most powerful force employed to punish it. The education that diminishes crime consists not in a knowledge of the printed page alone, but also embraces that higher development of the latent powers of brain and hand and heart, which enables the individual to properly employ the energies of life and to withstand temptation, fits him for the struggle of existence, and at the same time lessens the chances for even occasional crime. The school, the pulpit, the press, are all educators in the highest sense, to prevent our boys from growing up with anti-social tendencies, and for restraining our girls from ways of evil and paths of vice, by pointing both to a better and more useful existence on earth.

The press, in its great educational field, should refuse to publish much of the obscene matter found daily in its columns under the mistaken notion that the public demands it. The influence of good literature upon a growing mind is beyond comparison, while many a young desperado is made by

reading the pernicious literature of the day. The courts of justice may assist in this great work by forbidding the youth of our land from listening to testimony base and indecent, in every particular, from which many young men learn their first lessons of expert criminality.

Unfortunately, there is to-day extant a depraved public sentiment which seeks to make heroes out of the vilest and most vicious criminals. Let a wretch take the life of his victim, oftentimes to shield a far graver crime, and the curious and idle will throng the corridors of his prison to do homage to this prince of criminals. This sentiment, low and debasing as it is, but prompts many a dare-devil to deeds of violence that he may satisfy a morbid desire for notoriety, and parade himself before a curious public. Judging only from the reports of the daily press for the past few months, one would think that a wave of criminal insanity was now engulfing our nation and people. This disgusting sentimentality which lionizes the perpetrators of these crimes is responsible for much of this phenomenal, though spasmodic increase in certain classes of crime.

Again, the very little control exercised by many parents over their children is an exceedingly fruitful source of wrong-doing. Many a time and oft, when the shades of darkening night have fallen, the child, too young to resist temptation, is allowed to roam the streets of our towns and cities with the vicious and the lewd and the vile as his only companions. It is little wonder that such a child, surrounded by such influences, should soon lose respect for parents, love for home, and regard for law. It is little wonder that such children, at an early age go to swell the mass of a criminal population, and ultimately end life on the gallows, or spend bitter years behind the walls of a state prison. Our children must be taught to abhor such things. They must be taught veneration for parents and love of home as the highest glory of civilization. If we would make the next generation better than this, we must teach our children a pure and noble patriotism; a patriotism broader even than the love of country, a patriotism which includes the brotherhood of man and the Fatherhood of God. This is the work of education and the mission of the schools.

DeWitt Clinton said, when Governor of New York, "I regard the system of our common schools as the palladium of our liberty." Wherever education has gone crime has diminished. "If all the children of this country could be well educated and taught productive trades, crime would be diminished more than one-half," is the testimony of one who reads the lessons of history, and who

great intellectual agencies—the

school and the press—indissolubly united, have produced the physical progress of this country." A sound and safe education, practical in its tendencies and elevating in its influences, has done much to lessen crime, reform the criminal and ameliorate the condition of humanity.

So long as our public schools shall go forward in this great work of assisting the youth of the land in solving the problems of existence in the light of reason, our institutions are safe; but "when falls the common school system, freedom perishes and reason dies."

McHENRY RHODES,
Superintendent of Schools.

FRANKFORT, KY.

THE FUNDAMENTAL PROBLEM OF METHOD IN TEACHING.

Method is too often considered as mere recipes for teaching. These recipes are followed out lifelessly and the teaching reduces to a grind. Instead of this, *life* should furnish the key to the teaching process. Life must be the basis. The living unfolding of each subject to be taught, must be thoroughly understood by the teacher. With such a method the work may be made to live to the pupils.

The child is a bundle of possibilities awaiting realization. It has within itself a well equipped laboratory of potentialities which only need to be actualized. Thus, the problem of method arises: How can these potentialities be converted into actualities? How can the child be led into the larger life of the world? Some end is conceived by the teacher to be realized in the pupil. The question of method is: How can this be realized? It is evident that the pupil can only realize himself by identifying his own life with the life of the world. This demands a communication of subject and object. Thus, the fundamental problem of method is the fundamental problem of knowing; *i. e.*, how can the subject and object be brought together. The pupil cannot realize himself without means of realization. It is pretty certain that God makes and sustains the world simply as a means to our realization in this life. It is also evident that he designs that we shall know it, but *how* is the question of method.

The world of things about us can only exist and our minds can only think. We must know the world through conceptions only. Then, there are two series—one of conceptions in our minds, the other an independent extra-mental order which we find and do not make. These two series seem to be totally unlike, wholly incommensurable. Now, how can such be brought together? One is subjective, the other, objective. Here is where

method roots itself, and he who would proceed by the light of reason in method should master this problem.

Many of the great thinkers down through the ages have labored with this problem. Plato, Aristotle, Descartes, Leibniz, Spinoza, Kant, Fichte, Hegel and Schelling, are among the giants who have tried to give teaching and knowing a philosophical basis. Plato thought that our minds, before they were united with our bodies, dwelt among the gods and saw things then as they really are. But after our minds were united with our bodies, the objects presented to our view only remind us of what we saw in our antenatal state. On this view, all knowledge is by reminiscence. Although it sounds mythical, yet Plato viewed the mind as essentially active, and the world as only to be known by means of conceptions. Descartes made the subject and object an absolute dualism, and hence, there could be no communication, and therefore, no knowledge. Spinoza attempted to identify subject and object, but only the imagination can master his solution. The reason is totally unable on any view to get his thought-face, or the mental, to recognize his thing-face, or the material. Such double-facedness will do for the imagination to play with. The immortal Kant came more nearly solving this problem and furnishing the needed basis than any of his predecessors. Yet he, in his *Critique of Pure Reason*, limited our knowledge to phenomena, holding that our conceptions are valid for phenomena only. The reality which is back of phenomena is not open to our conceptions. God makes the real world and then hides it from us. The constructions which our conceptions put upon reality modify it very much. Nothing is as it appears. But we cannot believe that God hides the real world from us. He does not descend to jokes. We do not believe that our minds are so imbecile as to distort reality. According to Kant, the real world was made to no purpose. But we *will* have it that our minds are at *home* in this world. If we cannot prove it, we are willing to act on it. We believe that when we get the thought that is manifest in the world, we get the reality. The world, in its very essence, can only be thought to us whatever else it may be to more highly endowed minds. Hegel tried to spin the whole world out of thought. The external world exists only as idea in the mind. But we certainly believe that for man, it takes more than an idea to make the concrete things of earth. An age of thinking on the mere category of being, could never produce the particular pen with which I am writing. Thought and being are not one to us like they are to God. He needs not that anything should be given him, but we mortals do.

Thus, all of these great thinkers fail to give us a rational basis for knowledge. In failing to do this they do not give us a usable basal principle of teaching. The materialist comes forward with his theory of making the mental but a limping shadow of the material—an inner face to an outer physical face. But this system of determinism so degrades the mind that it spurns it with contempt. The mind *will* have satisfaction.

It would seem that failure to get the key to the problem has been about universal. Yet, a later-day philosopher has given a theory which shows a rational communication between subject and object. He finds a common ground on which they may unite. This common ground is thought. The philosopher referred to is Herman Lotze. His theory has been well worked out in America by Dr. B. P. Bowne.

This view recognizes a duality for man but a monism for God. Thought and being must be one for God in order for us to have any truth at all. God freely conceives by intellect a world of spirit and a world of things. These he realizes by will. He puts the world of spirit or mind into connection with a world of things, so that the former reacting over against the stimulus afforded by the latter reproduces the objective fact as it is. This is possible because the laws of thought are parallel with the laws of being. If things are first conceived by God and then realized by will, it is evident that the very essence of things is the thought, plan, or purpose in them. Then this thought of which things are the expression, can be obtained by the mind; for mind is subject to knowledge. Thus, the subject and object are brought together rationally by means of the common element, thought. And this is not far-fetched either, for the mind can do nothing but think, and since it can only know the world through conceptions, it cannot get into possession of anything foreign to it. It can possess itself of nothing but that which is its own product. It is created in the image of the Great Mind back of all things and is given the same mental furnishing, qualitatively the same but quantitatively different. Thus it is enabled to interpret correctly to a certain extent the manifestations of the Great Mind. The laws of being must be identical with the laws of thought, for things are only the realized thoughts of God.

Now, with such a conception of the nature of subject and object and of their communication, it will be seen that the teacher may proceed to lead his pupils into the larger life of the world, being conscious of the *why* of every step that he takes. To teach an apple, a mountain, a poem, the pupil must be made to identify himself with the thought manifest in the apple, the mountain and

poem. The teacher sees now that the laws of things are the same as the laws of thought; hence, he begins along the line of the categories to develop in the mind of the pupil the thought in the object to be taught. The apple has certain properties and relations which the pupil masters. So with the mountain and poem. Thus, the thought of these objects is made one with the thought of the pupil's mind. Then to know the world, the pupil must identify himself with the world. This he does through the common element, thought. This does not seem strange in regard to the poem, for it is the experiences of a man; but the others will appear as rational after sufficient reflection.

The teacher only stimulates the communication between the pupil's mind and the object to be taught, guiding him along the way, since he is familiar with the thought processes necessary to a mastery of the thought of the object.

O. L. LYON.

STEELVILLE, MO.

THE ORIGINS OF THE UNITED STATES CONSTITUTION—III.

In previous papers of this series we discussed the Constitutions of the most important confederacies of ancient Greece in their relation to the Constitution of the United States. In the debates of the Constitutional Convention and in the Federalist, frequent reference is also made to the Constitutions of the German Confederation, the Swiss Cantons, the Italian Republics and the United Netherlands. In short, the governments of all important confederacies, ancient and modern, were scrutinized in the search for historical guidance. The principal benefit, it seems to me, which the framers of the Constitution derived from this historical study, was an appreciation of the fact, that a loose confederacy could not withstand the strain imposed upon it. The disastrous careers of the leagues of the looser sort were a telling argument in favor of a strong central government. The convention was, in a general way, divided into two parties—the one favoring a strong central government and the other opposed to it. The one party was in favor of the "Virginia Plan" presented by Governor Randolph while the other advocated the "Patterson Plan" which was essentially a revision of the Articles of Confederation. It was fortunate for the cause of good government that these confederacies were made to serve as "horrible examples" of what a successful federal government **should not be**. The Articles of Confedⁿ ^d found want-
ing. 7 ^f sand."

Further experiments along this same line might have disastrous results. The injection of the "national" element was the tonic which gave consistency and strength to the entire system. The "federal" element, however, was not lacking. "The Constitution is, in strictness," said Madison, "neither national nor a federal Constitution, but a composition of both. In its foundation it is federal, not national; in the sources from which the ordinary powers of the government are drawn it is partly federal and partly national; in the operation of these powers it is national, not federal; in the extent of them, again, it is federal, not national; and, finally in the authoritative mode of introducing amendments it is neither wholly federal, nor wholly national." It looked at one time in the course of the deliberations of the Convention as though there was to be a preponderance of the "federal" element, but the better counsel prevailed and the confederacies of which mention has been made were no small factor in determining the issue of the contest.

Having thus reviewed, in a general way, the salient features of the more important confederacies referred to by the members of the Philadelphia Convention, we are prepared to consider the Constitution in detail.

THE PREAMBLE.

"We the people of the United States, in order to form a more perfect union, establish justice, insure domestic tranquillity, provide for the common defense, promote the general welfare, and secure the blessings of liberty to ourselves and our posterity, do ordain and establish this Constitution for the United States of America."

Our study of the Constitution proper, naturally begins with a consideration of the preamble. It will facilitate our study to separate it into three constituent parts: (1) the authority, namely, "We the people," by which the Constitution is ordained and established, (2) the six fundamental reasons for ordaining and establishing it, and (3) the title which the country is to bear under the Constitution.

The preamble begins with these inspiring words, "We the people of the United States," "to me," says Lieber, "the most magnificent words I know of in all history; they seem like an entrance, full of grandeur and simplicity, into a wide temple. It is the whole nation that speaks in its entirety and power; and yet the word 'people,' in its personal sense, gives more life to it." We have here a bold assertion of the "national" as opposed to the purely "federal" idea, which had been tried and found wanting in the republics of ancient Greece, in those of the Middle Ages and later still

under the Articles of Confederation. Under the Articles of Confederation which formed a mere league of States and not of the people, the country had been brought to the very verge of anarchy and disruption. The pages of history from Greece to America are strewn with the wrecks of loose federalism. It is refreshing, then, to turn from the lifeless compact of States to the closer union in which the sovereign people "ordain" and "establish." The preamble of the preliminary draft of the Constitution presented by the committee of detail through Mr. Rutledge on Aug. 6, 1787, differs somewhat from the preamble in its final form. It read thus: "We, the people of the States,"—enumerating the thirteen,—do ordain, declare and establish, the following Constitution for the government of ourselves and our posterity." This preliminary form bears a striking resemblance to the phraseology of certain parts of the last paragraph in the preamble of the first Constitution of Massachusetts, adopted in 1780. "We, therefore, the people of Massachusetts, do forming a new Constitution of civil government for ourselves and posterity do ordain and establish the following as the Constitution of the commonwealth of Massachusetts." Mr. Gorham of Massachusetts was a member of the committee appointed to draft the Constitution for that State. He was also a member of the committee of detail appointed by the Convention of 1787 to prepare a preliminary draft of the federal Constitution. These facts may serve to account for the similarities of phraseology.

The language of the six fundamental principles forming the main body of the preamble is directly traceable to a resolution offered in the Constitutional convention by Governor Edmund Randolph of Virginia, on May 28, 1787. It is as follows: "Resolved, that the Articles of Confederation ought to be so corrected and enlarged as to accomplish the objects proposed by their institution; namely, common defense, security of liberty, and general welfare." In drafting this resolution, Mr. Randolph plainly had in mind Article III of the Articles of Confederation, which declares that "the said states hereby severally enter into a firm league of friendship with each other, for their common defense, the security of their liberties, and their mutual and general welfare." This article can be traced to Franklin's plan of government of 1775. The Articles of Confederation were reported to Congress on July 12, 1776, in the handwriting of Mr. Dickinson of Pennsylvania. Benjamin Franklin of the same state had, on July 21, 1775, submitted to Congress a plan of government which was placed on file but never acted upon. This plan must have been familiar to the com-

mittee by whom the Articles of Confederation were drafted, and was evidently made the basis of the work of Dickinson and his colleagues. The names of the two plans are the same: "Articles of Confederation and Perpetual Union." In many cases the identical words of Franklin are used by the latter committee. In this plan of Franklin's there is a still earlier counterpart of the preamble of the Constitution. The second article runs thus: "The said United Colonies hereby severally enter into a firm league of friendship with each other, binding on themselves and their posterity, for their common defense against their enemies, for the securities of their liberties and properties, the safety of their persons and families, and their mutual and general welfare."

The title "the United States of America" was probably suggested by the name of the United Netherlands or United States of the Netherlands, to whose government we shall see the members of the Convention repeatedly referring. The title was formally adopted by the adoption of the Articles of Confederation, appearing as it does for the first time officially in that document.

Its use, however, dates back to the time of the Declaration of Independence or even before. *The Pennsylvania Evening Post*, a Philadelphia paper, contained on June 29, 1776, a communication signed *Republicus*, in which the name "the United States of America" was suggested. There is a foreshadowing of the transformation of the name from "United Colonies" to "United States" in Richard Henry Lee's famous motion of June 7, 1776, "That these United Colonies are, and of right ought to be, free and independent States * * *."

In the Declaration of Independence was realized the full content of Mr. Lee's motion and the colonies were transformed into states. Soon after, a committee consisting of John Adams, Franklin and Jefferson were entrusted with the task of preparing a device for a seal for "The United States of America." On the 9th of September, 1776, the name "United States" was officially recognized. On that date it was resolved by Congress, "That in all continental commissions, and other instruments, where heretofore the words, 'United Colonies' have been used, the style be altered, for the future, to the 'United States.'" The name "United Colonies" which had been hitherto in use was, for the first time, authoritatively used on June 17, 1775. Congress on that day issued to George Washington his commission as commander-in-chief of the army of the "United Colonies."

The genesis of the preamble has been discussed at some length, since the opening clauses of the

Constitution assist us in interpreting the document itself. "It is an admitted maxim in the ordinary course of the administration of justice, that the preamble of a statute is a key to open the mind of the makers as to the mischiefs which are to be remedied and the objects which are to be accomplished by the provisions of the statute."* The same rule holds true in regard to the preamble of the Constitution, and a great deal has been said and written concerning its proper interpretation. In discussing this point Pomeroy remarks: "This [the preamble] is the rock upon which many of the great champions of nationality among American statesmen have planted themselves in their conflicts with opposing schools, and from which they were never dislodged by the fiercest assaults of extreme or moderate partisans of state sovereignty."‡ A notable instance of the above is to be found in a speech delivered by Webster in the United States Senate on Feb. 16, 1833, in reply to John C. Calhoun: "Finally, sir, how can any man get over the words of the Constitution itself? 'We the people of the United States do ordain and establish this Constitution.' These words must cease to be a part of the Constitution, they must be obliterated from the parchment upon which they are written, before any human ingenuity or human argument can remove the popular basis on which that Constitution rests, and turn the instrument into a mere compact between sovereign States."†

When the seceding states formulated their Constitution they abandoned this explicit statement of nationality and substituted a preamble based on the "federal" idea. "We, the people of the Confederate States, each State acting in its sovereign and independent character, in order to form a permanent federal government, establish justice, * * * do ordain and establish this Constitution for the Confederate States of America."‡

It is worthy of note that, although the forces of "nationality" and "federalism" clashed repeatedly during the deliberations of the Constitutional Convention, the preamble in its present form was adopted without a dissenting voice. It is undoubtedly true that the framers of the Constitution did not appreciate the "national" idea as thoroughly as Webster and his followers did at a later time when vital constitutional questions had arisen.

THOS. F. MORAN.

PURDUE UNIVERSITY, Oct. 15, 1896.

*Story's *Commentaries on the Constitution of the United States*, § 218.

‡Constitutional Law, p. 61.

†Webster's Works, Vol. III, p. 477.

‡Appleton's *Ann. Am. Cyclo.* for 1861, p. 158.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"The process of the humanities is self-injection; the process of the sciences is self-elimination."—JOHN M. COETZEE.

STUDIES IN INDIANA GEOGRAPHY—V.

A STUDY OF THE CITY OF TERRE HAUTE.

CHARLES R. DRYER.

In a previous number of THE INLAND EDUCATOR appeared an abstract of a paper by the great French geographer, Elisée Reclus, upon the evolution of cities, in which he laid down a broad and scientific foundation for the study of cities in general and of any particular city. Appended to that article some editorial suggestions were given as to a plan of inductive study applicable in any town or city school to the home environment. At the request of Principal Charles S. Meek of the Terre Haute High School, the writer drew up an elaborate plan for a study of the city of Terre Haute for the use of the senior class in that school. For assistance in the preparation of the plan, acknowledgment of indebtedness is made to the paper of Superintendent W. B. Powell of Washington, D. C., read at the International Geographic Conference at Chicago,¹ to a plan for a study of the Rural Community by Superintendent W. A. Millis of Attica, Indiana,² and to Dr. J. T. Scovell of Terre Haute for free use of his intimate knowledge of the locality.

OUTLINE FOR A STUDY OF THE CITY OF TERRE HAUTE.

I. CONDITIONS WHICH DETERMINED THE LOCATION OF THE TOWN.

1. Preliminary Events.

Occupation by Mound Builders—occupation by Indian tribes—French discovery and occupation—posts at Vincennes and Ouiatenon (La Fayette)—cession to the English—Clark's conquest—cession to the United States—ordinance of 1787—organization of the Territory of Indiana—seat of government and land office at Vincennes—Indian wars and extinguishment of Indian title to land—Fort Harrison—government survey—decline in importance of Vincennes.

2. Physical Conditions.

Wabash River—navigability—good landing—straight reach of river—unbroken river

front—level plain on east side narrow—Macks-ville terrace narrowed bottoms and made easy crossing—broad valley above and below—extensive prairies and bottom lands—gravel terrace—wooded ridge parallel with and near river—good drainage.

3. Founding of the Town.

French settlement at "Old Terre Haute" three miles below and English settlement at Fort Harrison were rivals—a town mid-way between would kill both—site of old Indian village—junction of Louisville, Vincennes and LaFayette roads—land owned by the founders—who were the founders—motives in founding—origin of name—original plat—early settlers—sources of subsequent immigration.

II. INFLUENCES AND CONDITIONS WHICH LED TO THE GROWTH OF THE TOWN.

Navigation on Wabash River—organization of Vigo County and location of county seat—the National road—the Wabash and Erie canal—canal to Evansville—corn and wheat lands—milling—pork packing—distilling—blue grass pastures—horse raising and racing—native timber, walnut etc.—the railroads, T. H. & I., C. C. C. & St. L., E. & T. H., etc.—coal mining—blast furnace and rolling mill—brick and tile manufacture, etc.

III. THE MAKERS OF TERRE HAUTE.

Bullitt, Markle, Lasalle, Aspinwall, Early, Griswold, Reed, Dewees, Gilbert, Cruft, Linton, Farrington, Ross, Warren, Modesitt, Rose, McKeen, Denning, Kidder, Hulman, Collet, Crawford, etc.

The study of contemporaries may be omitted or continued at discretion.

IV. STAGES OF DEVELOPMENT.

Growth in space—causes of extension in various directions—growth in population—growth in value of property—changes in character of buildings—changes in character of population—changes in social conditions—changes in sanitary condition—disappearance of malaria—growth in schools and churches—changes in municipal government—incorporation of town or city.

V. THE PRESENT CITY.

1. Advantages and Disadvantages of Location.

Latitude and longitude—climate—mean annual temperature—mean temperature for January and July—absolute range of temperature—amount and distribution of rain—fall—distances from seaboard, Great Lakes, Ohio River, Mississippi River, Gulf of Mexico—distances and relation to other towns and cities—relation to surrounding country.

¹ p. 310, Dec. 1906.

² National Geographic Magazine, Vol. V., p. 137.

and Educator, Vol. I, p. 298.

2. *Advantages and Disadvantages of site.*

Topography—subsoil drainage—wells and cess-pools—facilities and difficulties of sewerage—access easy from three directions, difficult from the west—abundant supply of gravel for streets—abundant supply of clay for brick—absence of water power.

3. *Plan of the City.*

Boundaries and area—direction and location of streets—area of blocks and lots—width of streets and sidewalks—name system of streets—number system of houses.

4. *Distribution.*

Business districts—causes of location—tendency away from the river—manufacturing districts, causes of location—best residence districts, causes of location—good residence districts, causes of location—poor residence districts, causes of location—slums, causes of location—suburban districts, causes of location—value of property in each district—relation of manufacturing districts to health and comfort of residence districts.

5. *Buildings.*

Materials—size—regulations concerning—cost of materials—methods of construction—architecture.

6. *The People.*

Number—density—race—sex—age—occupations—married and single—birth rate—death rate, etc.

VI. THE MUNICIPALITY.

Common Council—Mayor—Clerk—Treasurer—how elected—powers—duties—the city charter, compare with those of Indianapolis, Ft. Wayne, etc.

VII. TRAVEL AND TRANSPORTATION.

1. *Material and Condition of Streets.*

Pavements—asphalt, brick and other—cost and relative value—sidewalks—flag, cement, brick and other—cost and relative value—rules and ordinances for construction and maintenance—bridges—amount of travel across—street cleaning—how done—why is snow seldom removed?

2. *Vehicles and Passengers.*

Character of vehicles—drays, trucks, omnibuses, cabs, etc.—number passing various points—number of foot passengers passing various points—rights and privileges of foot passengers and vehicles.

3. *Street Railways.*

Franchises—how obtained—terms—value routes—length of track—number of cars—speed—frequency—capacity—number of pas-

sengers carried—motive power and mechanical system—cost of plant—maintenance and running expenses—cost per car mile—profits—class of people using—length of average ride—time of day of greatest travel—fares—difference between five and three-cent fares and its relation to income and wages—rights of public to use of streets—rights of railway companies to use of streets—municipal control or ownership of street railways—compare Detroit, Toronto, Glasgow.

4. *Relation of Trunk Line Railroads to City.*

Stations—freight houses and yards—crossings—number of passenger trains—number of passengers—number of freight trains—amount of freight shipped from and delivered to city—express companies and express business.

5. *Main Wagon Roads Leading into the City and Amount of Travel on Each.*

6. *Transportation on Wabash River.*

VIII. COMMUNICATION.

1. *Telegraph and Telephone Companies.*

Service—rates—use of streets and alleys by.

2. *Mail Facilities and Delivery.*

Amount of mail delivered and sent—income of office—organization.

3. *Municipal or Governmental Control of Telegraph and Telephone Service.*

IX. POLICE DEPARTMENT.

Officers—courts—appointments—responsibility—crimes—arrests—convictions—sentences—enforcement of law.

X. FIRE DEPARTMENT.

Officers—employees—companies—engine houses—engines—alarm boxes—equipment—efficiency—cost—number of fires—ability to deal with a great conflagration.

XI. ENGINEERING DEPARTMENT.

Employees—appointments—duties—importance of.

XII. PUBLIC HEALTH.

1. *Board of Health.*

Appointment—powers—regulations—infectious diseases.

2. *Disposal of Sewerage and Garbage.*

Extent to which cess-pools and vaults are used—dangers—extent to which sewers are used—system of sewerage.

3. *Cemeteries.*

4. *Water Supply.*

Private—use of wells—dangers—public—franchise, how obtained—terms—charges—use of public supply for domestic purposes—for fires—people who most need public water

supply—municipal ownership of public water supply—Compare Chicago, Buffalo, Manchester, England, etc.

XIII. LIGHTING.

1. *Public and Private.*

Electric—gas—oil.

2. *Franchises.*

How obtained—terms—cost.

3. *Municipal Ownership of Electric Lighting and Gas Plants.*

XIV. FINANCE.

Assessment—taxation—revenue—expenditures—comparative cost of city governments of United States and foreign countries.

XV. BUSINESS.

1. *Home Products.*

Grain—live stock—timber—brick clays, etc.

2. *Sources and Cost of Power.*3. *Manufactures.*

Whiskey—beer—tools—barrel stuff—cars—iron goods—brick—etc.—quantity and value.

4. *Wholesale Houses.*

Character—volume of business—territory supplied.

5. *Retail Houses.*

Character—volume of business.

6. *Banks, Insurance, Building and Loan Associations, etc.*

XVI. DISTRIBUTION OF WEALTH.

Individual wealth—how acquired—rich men— incomes—cost of living—expenditures for food—clothing—rent—luxuries—etc.

XVII. LABOR.

Labor organizations—strikes—wages in different employments.

XVIII. PROFESSIONS.

Divinity—law—medicine—teaching—journalism—engineering—cost of preparation for—incomes and salaries.

XIX. EDUCATION.

1. *Public Schools.*

Organization—courses of study—buildings—attendance—school population—teachers—salaries—cost—etc.—Indiana State Normal School and its relations to the city.

2. *Private Schools.*

Rose Polytechnic Institute—Coates College—Commercial Colleges—teachers of music, dancing, etc.

3. *Libraries.*

Size—circulation—character of books read—influence, etc.

4. *The Press.*

Newspapers and periodicals published and circulated in city—newspapers and periodicals published elsewhere and circulated in city.

5. *Art Galleries.*

Exhibits and collections.

6. *Literary, Art and Musical Societies and Clubs.*

Number—membership—character of work—lecture courses—concerts, etc.

XX. RELIGION.

Churches—buildings—value of property—income—members—attendance—clergy—Sunday schools—missions—Young Men's Christian Association.

XXI. CHARITIES.

Hospitals—dispensary—alms house— orphan asylums— institutions and societies— what is being done for the dependent classes— for tramps— for criminals— for children— causes of poverty and crime— prevention and relief of poverty and crime.

XXII. RECREATIONS AND AMUSEMENTS.

Hunting—fishing—boating—cycling, etc.—parks—athletic sports—races, etc.—public and private entertainments—plays, etc.—picnics—excursions—summer resorts—places of resort and amusement for laboring men—should they be open on Sunday?

XXIII. HOME LIFE.

In families of different races—incomes—education—intelligence and social position—relations of husband and wife—divorces—relations of parents and children—relations of home life to idleness, vagrancy, vice and crime.

XXIV. SOCIAL ORGANIZATION.

Groupings on basis of race, religion, politics, wealth, occupation, etc.—standards of taste, intelligence and morals—secret, fraternal and other societies—peculiar customs and habits—peculiarities of language and speech.

XXV. REGULATION OF CONDUCT.

Influence of education, religion, home training, public opinion, law—prevalent motives of action.

XXVI. FAMOUS MEN AND WOMEN OF TERRE HAUTE.

XXVII. PROBLEMS OF MUNICIPAL ECONOMY.

Is the problem of city management essentially a political, or an economic and business problem?—relation of political parties to city government—city government in the United States, past and present—the civic and municipal renaissance.

1. *Physical Problems.*

Cheap, rapid and safe transit—cheap and efficient lighting—pure, cheap and abundant water

supply, universally distributed—ample and efficient sewerage—suppression of nuisances—the smoke nuisance—the whistle nuisance—the manufacturing nuisances—the garbage and dust nuisance, etc.

2. *Political Problems.*

Purity of elections—honest administration of government—expert and competent officers and employes—enforcement of law.

3. *Social and Moral Problems.*

Prevention and suppression of drunkenness, poverty, vice and crime—help for dependent and criminal classes—increase of intelligence and morality—improvement in the cleanliness and beauty of the city.

At the close of the winter term, about April 1st, 1896, Principal Meek assigned to each of the seventy members of his senior class a topic selected from the above outline, for investigation and report. The class had been prepared for the work by nearly three years' study of the political history of Europe and the United States. In every case the facts were collected and arranged, and conclusions reached by the original and personal efforts of the students, almost without help from the teacher. Two months were devoted to this work and then the results were presented and discussed in the class. This work was done in place of the thesis usually required for graduation. The whole mass of material was placed in the writer's hands for examination and comment.

The papers presented were, of course, of unequal value, not only on account of the varied ability and industry of their compilers, but also on account of the unequal difficulty of the topics themselves. The nature of most of the subjects was such that the students could get very little help from books and periodicals, but were compelled to depend largely upon their own energy and enterprise for their material. On the whole, their efforts in collecting the facts and data required were eminently successful. In this respect every paper possessed intrinsic value as material for history or sociology, and many of them were nearly or quite exhaustive. In general, the material was well arranged and clearly presented. Errors in spelling or syntax were rare exceptions and the papers gave no support to the allegation that the average high school graduate is unable to express simple and definite ideas in clear and correct English. Few writers attempted anything more than the collation of facts, entered into any discussion of their significance or indicated consciousness of their bearing upon important problems. It could hardly be expected that high school students should be familiar with the great municipal

problems now under discussion, or that a student engaged in the collation of one set of facts should see their relation to other facts to which his attention had not been directed. Such work belongs to the class-room under the direction of the teacher. To the reading and discussion of the papers by the class about thirty school periods were devoted and every member of the class was required to keep a note book embodying the facts presented by all and the leading ideas brought out in their discussion. One of the most successful papers was that on distribution, the causes and results of the location of business and residence districts, and the expansion of each being easily discovered and comprehended. The subject of physical conditions was not so fortunate; although the relations of physical conditions to the growth of the city are fundamental and apparently obvious, the writer found it uninteresting because she missed the main point in failing to see those relations.

The general question of poverty and crime was quite ably discussed, but without any special reference to Terre Haute. The same remark applies to the papers on the Regulation of Conduct and on Home Life. Intelligent and judicious discussions of the Municipal Ownership of Lighting Plants and Public Water Supply, and the Relation of Political Parties to City Government, were conspicuous among the few similar papers.

One prominent and interesting feature of the papers was the inability or indisposition of the writers to see anything wrong in Terre Haute. The proprietary instinct is strong in human nature, and particularly well developed in American nature. We are all optimists in our own affairs, and prone to believe that *our* family, *our* town, *our* country are a little better than any others. Loyalty and patriotism are great virtues, but blindness to our own faults and defects is fraught with serious danger. It is first necessary to make people see the evils which exist before they can be aroused to remedy them. The prevalent commercial spirit, which leads us to advertise our own goods and property and to boom our own town by bragging about their virtues and advantages and concealing their defects, has done much to blind us to many great evils which are remediable. The papers presented some ingenious arguments to prove that obvious disadvantages in Terre Haute are really advantages, and that existing abuses are either harmless or unavoidable. One good result which may be expected from studies of this kind is to open the eyes of young people to unpleasant and deplorable facts and to do something toward educating the public to demand and accomplish needed reforms.

The outline was intended to be as nearly ex-

method, as possible, and is as well adapted for the use of students as for lower grades. The collection of facts could be done nearly as well by pupils of the seventh or eighth grade, and with better result, and serve as an ever-accessible and unimpaired field for the study of home geography, and as a basis for the study of cities in general. In any grade the following advantages may be derived from such a plan: 1. The use of individual experience and observation. 2. The acquirement of direct, personal and first-hand knowledge. 3. The use, even itself, as information, of such knowledge of facts and conditions which intimately concern the welfare and conduct of every student. 4. The increase of general intelligence. 5. The mental discipline obtained by the classification of such facts and the discovery of their relation to each other and to other facts. 6. The conclusions which may be drawn from them by inductive reasoning. 7. A basis in experience for the study of other cities and countries. 8. Practical lessons in the science and art of civics and economics. The highest advantages will be attained in greater proportion as the grade of the student is more advanced.

At the top geography runs insensibly into history, sociology and political economy; in a word, into the new and comprehensive science of *demology*. It is scarcely worth while to try to discover the cleavage plane between them. This paper is offered as a contribution to the method of study along this plane.

SCIENTIFIC RESEARCH AS A MEANS OF EDUCATION.

By T. D. A. COCKFIELD.

I. THE NEW METHOD.

Any one who reads the current literature, relating to scientific education, cannot fail to observe the growing prominence of a new set of ideas. Instead of humbly submitting to authority, and believing what he is told, the student of the future is to find out things for himself, to test the veracity of his teachers at every point. He is, in short, to adopt a scientific method, essentially identical with that of the greatest masters of science.

While the new method has not lacked many able advocates, and to all appearances has worsted the text-book system in every conflict, it seems to stand in danger of becoming, like Christianity, more a matter of pious belief than actual practice.

The reasons for this are obvious. The putting of new wine into old bottles is never wholly successful, and in the present instance new bottles are extremely scarce. The teachers of the present day were nearly all brought up under the old system, and they cannot be expected all at once, for the

benefit of the pupils, to acquire a scientific habit of mind. They are, perhaps, less than any other class of individuals, the slaves of text-book authority, and to use them to form and and assume a critical attitude toward the facts of nature, to see and interpret for themselves, is to call for a mental somersault which only the youngest and fittest are capable of performing.

Another difficulty, even more serious, is the want of time. No sound scientific work can be done in a hurry. So long as our courses of study are crowded to their utmost capacity with short and hurried recitations following each other throughout the day, the student's mental attitude must, necessarily, be somewhat like that of a person besieged by cheap-pops at a country fair. While the advocates of the new ideas tell us, with truth, that "training and inspiration, not the facts themselves, are the justification of science-teaching," how many have the courage to turn out properly trained students who are not crammed with text-book facts? Instead of this, the attempt is made to do the cramming and the training at the same time, to the utter bewilderment of all concerned.

Still again, the work is usually begun too late. Scientific training should commence where the education of the child commences. The little child is almost always interested in the facts of nature; it is for us to keep that interest alive and develop it. I have a little boy, three years old; he asks "what's that?" a hundred times a day, and will repeat the question until he is sure he knows. If we could but keep them asking "what's that?" all their lives long!

II. THE EDUCATIONAL VALUE OF SCIENTIFIC RESEARCH.

Original investigations are usually conducted with a view to ascertaining new facts; but it cannot be doubted that they also possess a very high educational value, so that an investigator would be repaid in training for his time and work, even though he should fail to add to human knowledge. It does not seem to be sufficiently realized that scientific work in the most limited field involves a very wide range of mental activities. Let us suppose, for example, that a student is to examine a single genus of wild bees, which is to form the subject of his thesis. We will imagine that he has the time and inclination to do the work as it ought to be done, and will enumerate some of the paths into which he will inevitably be led before he has finished.

(1.) He must study the fundamental laws of biology, so as to appreciate the nature of generic, specific and varietal characters, heredity and variation, metamorphosis, and so forth. If ignorant

of these matters, he will lack the judgment necessary to a proper classification of his bees.

(2.) He must learn, also, the principles of classification, so that his arrangement and terminology may agree in form with that of other zoologists. Comparatively few people understand the plan on which living creatures are arranged by naturalists, or know what is intended by the words class, order, family, genus, and so forth.

(3.) He must become an anatomist, skillfully separating and studying at least the external organs of his bees. The structure of the mouth parts will especially call for skill in manipulation and examination, and provoke admiration when properly prepared.

(4.) He must also be a physiologist, and learn the functions of the several organs, otherwise his understanding of them will be imperfect.

(5.) He must learn to draw, so as to reproduce accurately on paper what he has seen.

(6.) He must learn to describe. The describing of insects is often spoken of by those who have never tried it as a mere mechanical process, to be regarded with some contempt. No idea could be more mistaken. To properly describe a bee calls for the very best powers, not only of observation and judgment, but of language. It is one of the greatest difficulties of the scientific student, in nine cases out of ten, that he has not the command of the English language which is necessary for describing accurately and intelligently.

(7.) He must learn to compare; that is, to distinguish rapidly those characters which are common to two or more objects from those which are peculiar to each. This power of comparison is essential to sound criticism; it is developed, not only in working on the insects, but in studying the literature of the subject.

(8.) He must read all the literature relating to his group, and glean from it the ascertained facts, which he must arrange in an orderly series, incorporating his own original observations. Thus, he becomes a bibliographer and an historian, or, at least pursues an historical method.

(9.) In order to do this he must gain some knowledge of Latin, German and French, perhaps also, Italian or even Russian. So he is in a fair way to become an accomplished linguist.

(10.) He must also correspond with other students of his particular group of bees, in order to exchange specimens and acquire information. These students will be found in many distant countries, and our student comes to realize the truly international character of science. The sense of community with foreign students which every scientific man gets is not the least valuable

part of his training. Would that in other human affairs the same fraternal feeling might exist!

(11.) The bees visit various flowers, and the relationship between bees and flowers has to be studied, and, when studied, yields facts of the most absorbing interest. So our student must know something about flowers—must be a botanist.

(12.) The distribution of his bees over the country has also to be studied, and he must, in this study acquire considerable knowledge of geography.

(13.) In the pursuit of specimens for study, he must traverse woods and meadows, valleys and mountains, and thus will get all the fresh air and exercise he may require. Catching wild bees, the writer can testify, is also excellent sport.

But this list might be continued indefinitely. Enough has been given to show that the *thorough* knowledge of even the smallest branch of science involves a tolerably good general education; and the knowledge so gained forms a coherent whole, instead of a dislocated jumble such as is commonly crowded into the student's mind.

It is often supposed that scientific work, worthy of the name, necessarily occupies one's whole attention. This is by no means the case, as is shown by the fact that many distinguished naturalists are men who get their living as physicians, merchants, etc. But the secret of their success lies in their perseverance, and the utilization of every opportunity to further their studies. Educational studies are generally undertaken for a limited period, after which the student is said to have "finished" the subject. One of the first and most important lessons science has to teach, whether to children or to adults, is, that work undertaken in her name can never be "finished." We, ourselves, do but take up the thread relinquished by past generations, to hold it for awhile and pass it on.

III. HOW EACH ONE MAY ADD TO HUMAN KNOWLEDGE.

If "training and inspiration" were only to be gained by scientific studies, they would be more than justified. But, in addition to these, everyone, if properly directed, may have the satisfaction of adding to human knowledge. It has often been a cause of surprise to me, that the sentimental side of this matter, if one may so call it, does not appeal more strongly to people's minds. It seems to me a grand idea, that one may find out a new fact, something never known before. The discovery, small though it be, is eternally one's own; from henceforth it is known, others can only repeat and confirm the observation. To the splendid building of human knowledge each one may contribute a brick at least, but he must see to it that it is of sound material and correctly placed.

And, to this end, he must have the advice of the master bricklayer.

Science is at present very imperfectly organized. We need a system whereby each individual cooperates with the rest, having his special part, his particular duties. The uninitiated student is at a loss for want of guidance, and his teacher cannot often help him. It is quite impossible to get the best results from students without efficient supervision, and especially example. To make bricks is not to make a house; neither do observations assist the building up of scientific knowledge, unless systematized and placed in proper relation to one another. For the sake of education, and for the sake of science herself, we must organize. Those who are specialists in various branches, must direct the activities of those less advanced. Certain lines of work must be formulated, certain objects sought, otherwise, all will be chaos. Within these lines the utmost freedom must be allowed; originality of treatment must be encouraged, but the general purpose of the study must never be lost sight of.

Let me suggest an example: Suppose a country school in which there are fifty pupils, who are to do some natural history-work next spring. The teacher is probably not able to judge what kind of work would be valuable, so application is made to a botanist for advice. He advises the preparation of a local flora, with records of the times of flowering, relative abundance, and so forth. The teacher then procures the necessary apparatus at small cost, and instructs the students how to proceed. All bad work is relentlessly rejected, and the utmost precision in recording data with the specimens is insisted upon. The children will enter into the work with zeal, and will even employ their holidays in searching for plants. At length the flora will be nearly complete, and additions will be received with great acclamation. By this time, the copy of Gray in the school library will present a worn appearance, and every child will know much more about the flowers of the neighborhood than his parents. The critical forms will be warmly discussed, and opinion will be pitted against opinion. Eventually, the botanist already mentioned will go over the collection, correct errors of identification, and help in the preparation of a list which shall appear in the annual report of the local natural history club, or even in some more prominent publication. Such local floras always possess real scientific value, and among the many specimens obtained, there are sure to be some of particular interest.

It may be pertinently asked, how are you going to secure such supervision that the work may be directed? At present it is indeed difficult, quixotic enough to believe that the time

will come when organizers, such as the aforesaid botanist, will be recognized as part of our school system, and paid accordingly. This will come, perhaps is already coming, in the form of what is called university extension, but should eventually become an integral part of the public school system, not dependent on this or that university for encouragement and support.

IV. A PRACTICAL SUGGESTION.

For such of your readers as would like to begin a little investigation, I have a practical suggestion to make. There are certain curious creatures much studied by the present writer, known as scale-insects and mealy-bugs. They are insects of the family Coccidae. They do much injury to cultivated plants, on which they appear as small scale-like objects, convex or flat, round or elongated, sometimes with a good deal of cottony secretion. They can be distinguished from fungus growths by the fact that they can be scraped right off the plant, whereas, fungi come from beneath the surface and cannot be thus removed.

Now these creatures are being spread all over the world on cultivated plants, and it is of considerable economic and scientific interest to follow their journeyings. So important is the matter deemed, that a horticultural quarantine officer is stationed in the port of San Francisco to inspect all plants entering, and destroy those on which scale-insects are found. Hothouses nearly always foster several kinds of these insects, and indeed, many new species have been described from specimens found on hothouse plants.

We know practically nothing about the species existing in the hothouses of Indiana and the adjacent states, and it would be a noteworthy contribution to knowledge if one-tenth of your numerous readers would take the trouble to visit each one a single hothouse during the winter, and collect specimens of the kinds found. The specimens should be forwarded to me at Mesilla, New Mexico, and will be studied, and eventually transferred to the United States National Museum at Washington. I cannot undertake to correspond with individuals sending material, except to send a short note on the specimens to those enclosing a stamped and addressed envelope. But, if any general interest is shown, I will, in THE INLAND EDUCATOR, give an account of the natural history of scale-insects, with a detailed statement regarding those received, so that everyone may be able to understand the nature of the investigation and appreciate the results obtained. The creatures should be sent *in situ* on the plants, infested portions of which should be cut off and placed in an ordinary envelope. Those from each kind of plant should go in

a separate envelope, and it is desirable that the envelopes should be numbered, and duplicate specimens kept, with the same numbers, by the collector. On *every* envelope must be written the name of the plant, the date, the exact locality, and the name of the collector. It is desirable to state whence the plants were obtained by the owner of the hothouse, if this is known.

NEW MEXICO BIOLOGICAL STA., MESILLA, N. M., Oct. 25, 1896.

THE INDIANA ACADEMY OF SCIENCE.

The Proceedings of the Indiana Academy of Science for 1895, now, for the first time published at the expense of the State, has appeared from the hands of the public printer, and is in every way a volume creditable to the Academy and to the State. It contains the results of a large amount of good scientific work by "over a hundred trained experts working in fields specially chosen and agreeable, spending a large portion of their time upon new problems whose solution is of vital importance to the development of our commonwealth. These workers have been trained in the best schools, home and foreign, and bring to their investigations, zeal, enthusiasm, skill, patience and common sense. For the results of their work they seek no other remuneration than the honor that comes from the willing and loving recognition of their labors by their friends, neighbors and fellow-citizens, to whose highest and best interests their lives are consecrated." Such work costs the state only the expense of printing, less than \$600. Every public library, university, college, normal school and high school having a library, which shall make application therefor, is entitled to receive a copy; also such other institutions, societies or persons as may be designated by the Academy.

The President's address, "Indiana; a Century of Changes in the Aspects of Nature," by A. W. Butler has already appeared in full in *THE INLAND EDUCATOR*.* From the eighty-six papers contained in the proceedings, we can select for special mention only a few which appear to be of most general interest.

Dr. D. W. Dennis of Earlham College, notes the success of allowing hogs to drink only boiled water as a preventive of cholera. A. H. Purdue reports his investigation of the Charleston (Mo.) earthquake of Oct. 31, 1895, and concludes that the removal of great volumes of gas in recent years from Indiana had nothing to do with the shocks felt throughout the State. R. Ellsworth Call contributes a revision of the *Parvus* group of Unionidae (fresh-water bivalve shell fish) with six plates; also an extended contribution to a knowledge of Indiana Mollusca. Albert B. Ulrey a list of the

birds of Wabash County. Professor Stanley Coulter of Purdue University a report upon certain collections of flowering plants from Indiana with valuable notes and comments, among others the occurrence of the "Russian thistle" in Lake and Noble Counties. Alida M. Cunningham notes on the distribution of orchids in Indiana.

Unquestionably the most important article is the first report of the Indiana University Biological Station at Turkey Lake, which fills about one hundred of the three hundred pages of the volume. It is illustrated with fourteen photographic views and a large map. The special object of study was Turkey Lake as a unit of environment and the variation of its inhabitants. As a necessary foundation, a very careful and thorough survey was made of its physical features. Measurements and soundings were made to determine its outline, bottom contour, areas at various depths, volume of water, relation of volume to outflow and evaporation, character of bottom, ice phenomena and changes of level. This "preliminary report" upon the physical features of the lake was prepared by D. C. Ridgley, the elaborate and beautiful hydrographic map was drawn by C. Juday, and J. P. Dolan furnishes tables showing air, surface and bottom temperatures for every day from Sept. 22 to Dec. 23, 1895. This part of the report constitutes the first thorough and systematic study which has ever been made of any Indiana lake, and one of the most notable contributions ever made to Indiana geography. The most important facts, and a reproduction of the map, will appear in a future number of *THE INLAND EDUCATOR*. The remainder of the report comprises a study of the inhabitants of the lake by various experts, and a discussion of their variation by Professor C. H. Eigenmann of Indiana University and W. J. Moenkhaus.

Professor C. A. Waldo and his corps of assistants deserve commendation and thanks for their very successful editorial work.

SCHOOL HOUSES.

When it is considered that more than five-sixths of all the children of the state spend a considerable portion of the most impressible period of their lives in the school house, the general condition of those buildings and their influences upon the young stand forth, at once, as topics of prominence and magnitude. The construction of the school house connects itself closely with the love of study, with proficiency, health, anatomical formation, and length of life. These are great interests, and therefore suggest great duties.—*Horace Mann.*

* Vol. II, p. 313.

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS.—XI.

PROFITS.

In our study of distribution we have considered the causes which determine what shares of the wealth produced shall go to land, to labor, and to capital for the service which they severally perform in production. It was seen that, under our commercial and manufacturing systems, these shares are fixed before the production takes place. The amount of rent, the wages to be paid, and the rate of interest, are fixed for definite periods, over which production is to extend. To the sums paid for the use of land, labor, and capital, are added taxes, insurance, the replacement of capital consumed, etc., and the total is the cost of production.

Now since the cost of production is pretty accurately known before production takes place, it is evident that, if the value of the wealth produced is less than the cost of production, there will be a loss which will have to be borne by some one; but if the value of the wealth is greater than the cost of production there will be a gain which will belong to some one. It is this gain which is called profit.

Profit is the surplus wealth which remains after all the expenses of production have been paid. Since it is common to express all values in money terms, the amount of profits will be expressed in this way. As the cost of production is estimated at so much money, it is evident that the amount of profits will vary as the value of the commodities produced varies with rising and falling prices.

SOME CAUSES GOVERNING THE AMOUNT OF PROFITS.

Profits result from business ability. It requires executive ability, energy, and foresight, to successfully manage any enterprise; and the greater the degree of ability exercised by the management the greater, usually, will be the success of the undertaking. The management must know when to take advantage of a rise of prices; it must organize the productive forces that the largest amount of wealth possible may be produced; it must be on the alert to secure orders so that the business may be kept running, and capital may not lie idle. In a word the manager tries to produce as much as possible, and sell the product for the highest price obtainable.

Profits are affected by industrial conditions. There are various conditions which may affect profits, and over which the manager has no control. Financial panics may so impair business that prices will fall below the cost of production. Climatic conditions may lessen or increase the production. Pestilence may destroy business

altogether and the same may be said of war. Calamities by fire, water, etc., also affect the amount of wealth to be distributed. While these causes may result in destroying or lessening profits, some of them may act to produce the opposite results. A foreign war would help to enlarge the profits of American industries. A failure of the wheat crop in India usually raises the price of American wheat.

Legislation, concerning money and trade, may increase or decrease profits. Legislation which fixes the fare for riding on a railroad, regulates, in a measure, the income of the road.

Whatever will increase the productiveness of an enterprise, or decrease the cost of production, will, if prices remain the same, increase the profits. Increased production may be secured by increased skillfulness of labor, and by the invention of machinery. The cost of production may be reduced by a more constant employment of capital. To do this many factories run night and day, giving employment to two or three sets of laborers, thus producing two or three times as much wealth as would be produced should they run but eight or ten hours each day. In this way less capital is needed, as the capital invested in one factory, if employed constantly, will produce as much as two or three times the same amount invested in two or three factories, which run one-half or one-third of the time.

Competition tends to lower profits, as it usually lowers prices. This may be overcome by increased sales.

Combines or trusts are formed to keep up or increase profits. Whatever will lower prices, will lessen profits, if the cost of production remains the same. Competition, we said, tends to lower prices. A producer, willing to receive smaller profits, offers his goods at lower prices in order to gain trade and others must follow this lead. Overproduction of any commodity will raise the supply above the demand and lower prices. To prevent this, similar industries combine to regulate the supply and demand. They go on the principle that it is more profitable to produce a limited quantity and sell it at a high price, than to produce a large quantity and sell it for a small price. The resort to monopolies in order to enlarge profits is not looked upon with much favor by the consumers of wealth, as the added price must be paid by the consumer.

A more extended study of the subject will reveal other causes and combinations of causes which regulate the rate of profits.

Profits are not essential to continued productive industry but are great incentives to industrial enterprises. Many industries go on without any

profits being realized. The land owner is content with the rent he receives; the capitalist, with his interest; the laborer, with his wages; and the employer with his salary as a skilled workman or overseer. All the agents are satisfied to continue if they make "both ends meet."

To whom do the profits belong? This is a question about which there is much discussion.

Profits are claimed by the employer, manager, or undertaker, as the one who brings the factors of production together and directs their efforts, is called. He claims that he is entitled to them as a remuneration for the responsibility he assumes, and the risk he runs in undertaking to conduct the business. This claim of the manager to the profits of the industry, for which he is responsible, is pretty generally acknowledged to be just, unless unfair measures are resorted to, to make large profits at the expense of wages, etc.

There are those who claim that the profits should be shared by all, and many organizations or societies have been formed for this purpose.

Some would have the government manage all industry and receive the profits. This is practiced by some governments in some industries. Many cities own and operate their own water, gas, and electric plants. Some governments own and operate the railroads and telegraph lines.

Cooperation. Many attempts have been made to divide profits among the manager and the laborers. Cooperation is the general term for the different methods of doing this.

In some cases employers have voluntarily offered to share profits with their workmen according to some rule agreed upon by the parties concerned. This plan allows the owner to retain control of the business. Profit-sharing has been tried in numerous instances but has not met with the favor of most business men, nor has it been satisfactory to workmen in many cases. It has usually been adopted at a time when profits were large; and when these began to decrease the laborers became dissatisfied and grew doubtful of the honesty of the employer.

In productive cooperation, the laborers attempt to furnish the capital and look after the management of the enterprise. The advocates of this plan claim for it the advantage of giving all the profits to labor.

Distributive cooperation, in contrast to productive cooperation, which distributes the profits which arise from the production of goods, is the sharing of the profits arising from the sale of goods.

This subject will be treated more fully in a future article.

I. M. BRIDGMAN.

POLO, ILL.

METHOD IN ARITHMETIC XV.

A PLAN FOR A REVIEW LESSON IN FRACTIONS.

I. Subject-matter.

1. The division of a fraction by a whole number.
 - a. When the numerator of the fraction will exactly contain the whole number.
 - b. When the numerator cannot be divided by the whole number without a remainder.
2. The division of a fraction by a fraction.
 1. When the denominators of the two fractions are alike.
 2. When the denominators are unlike.

II. Purposes.

1. To lead the child to review and strengthen his knowledge of the division of fraction in the cases mentioned above.
2. To arouse pleasurable interest in numbers.
3. To strengthen the will-power by leading to correct choosing of numbers.

III. Steps.

1. Think the individual.
 - a. Rethink a fraction and a whole number which is a divisor of the numerator.
 - (1.) Think the fraction as a dividend.
 - (2.) Think the whole number as the divisor.
 - (3.) Think the quotient as their relation.
 - b. Think a fraction and a whole number which is not a divisor of the numerator of the fraction.
 - (1.) Think again the fractions as the dividend.
 - (2.) Think the whole number as the divisor.
 - (3.) Think the multiplication of the fraction by unity expressed in the form of a fraction whose denominator is equal to the whole number used as the divisor.
 - (4.) Think the quotient of this product divided by the whole number.
 - c. Rethink two fractions with like denominators.
 - (1.) Think again one fraction as a dividend.
 - (2.) Think the other as the divisor.
 - (3.) Think their quotient.
 - d. Rethink two fractions having unlike denominators.

- (1.) Think one as the dividend.
- (2.) Think the other as a divisor.
- (3.) Think the reduction of the divisor fraction to a fraction with a denominator similar to that of the dividend.
- (4.) Think their quotient.

When the problems are solved turn the child's attention to the first one. Ask what the dividend is, what the divisor, also how many times the numerator of the fraction contains the whole number or divisor, and what the result is. These questions are asked that his mind may be directed toward the steps in the process, and that he may give a reason for them. Go through with each of the five problems in the same way. With each new problem he associates the particular ideas with the generals, and these are broadened.

Then give five problems like the following, illustrating the second case :

$\frac{2}{3} : 4 = ?$ $\frac{3}{4} : 3 = ?$ $\frac{4}{5} : 7 = ?$ $\frac{5}{6} : 9 = ?$ and $\frac{1}{2} : 11 = ?$ After the results are obtained, begin with the first one, as before, and bring out by questions the dividend and divisor, and also that the divisor is not an exact divisor of the dividend as it stands, but show him, if he does not know, that he may multiply the dividend by a fraction whose numerator and denominator are equal to the divisor. Have him see that the reason for this step is this—the dividend will not contain the divisor without a remainder, but by multiplying it by unity expressed as a fraction, we change it into a form which may be exactly divided by the whole number. Develop these points in all these problems as before, thus broadening his general knowledge.

Give five problems illustrating the third case: $\frac{2}{3} : \frac{1}{2}$, $\frac{4}{5} : \frac{3}{4}$, $\frac{5}{6} : \frac{2}{3}$, $\frac{3}{4} : \frac{1}{5}$, and $\frac{1}{2} : \frac{1}{3}$. Develop the facts with these just as with those in the first case, and call for the accurate results.

Give five others like these: $\frac{3}{4} : \frac{1}{2}$, $\frac{4}{5} : \frac{2}{3}$, $\frac{5}{6} : \frac{1}{4}$, and $\frac{1}{2} : \frac{1}{5}$.

The new points to bring out in these are that the denominators are not alike, and must, therefore, be reduced to like forms before division can be performed. As he has had the reduction of fractions, this will simply cause him to review his knowledge. Have all the steps in these problems explained by the pupil.

2. Think the general ideas with the particular for each of the four cases mentioned.
3. Associate the particular ideas with the general.

IV. Basis.

1. The child's knowledge of the essential ideas in the four fundamental processes.
2. His knowledge of the fundamental pro-

cesses of the multiplication and division of fractions.

V. Devices.

1. Give to the class as an assignment for outside work three problems illustrating each case mentioned in the subject-matter. Have these brought in on paper accurately solved. Collect the papers, mark the errors, and hand them back at the close of these lessons. Have the pupils understand all their errors and correct them. This assignment is to train them to accurate work in the process.
2. Send the class to the board. Give these five problems to them illustrating our first case: $\frac{2}{3} : 5 = ?$ $\frac{4}{5} : 5 = ?$ $\frac{1}{2} : 6 = ?$ $\frac{3}{4} : 3 = ?$ $\frac{5}{6} : 7 = ?$

NOTES.

No problems illustrating the fourth class were given, and these should have been taken at the same time, as they are so closely related to each other.

The reasons for multiplying the given fraction by unity was not clearly brought out, not enough to be understood thoroughly. Some of the children could not tell why they did it.

Also, the reasons why multiplication by anything else besides unity will change the value of the fraction, and in what way it does this. And, in the division of a fraction by a fraction with a different denominator, the reasons why they must be reduced to like denominators before the operation can be performed, was not given enough attention. The points should have been so thoroughly understood that each child could give the reasons for each step.

LUCIE PATTEN.

My method-class and I frequently visit some practice teacher to observe her work. We take full notes. The pupils are expected to work out the lesson plan from what is seen. At a following meeting the notes are discussed, and criticisms, favorable and unfavorable, are made. The object is twofold: first, it puts into practice some of our theories about number teaching; second, it gives some help in correctly judging a teacher's work. When my pupils are required to state definitely the reason for a judgment offered, and to show the remedy, they are more careful to note the facts and the acts criticised. Teachers should be able to enter a school-room, observe a lesson, and fairly judge both the pupils and the teacher.

The accompanying report was made after such a visit and discussion. It is put largely after the pupil's own notions.

Miss Patten has never taught except in our

model school, and has put some of her points in a very formal way.

Her statement of purposes is not so clear as it was when made orally. She finds trouble in wording the purposes for pleasure and choice. She has used "think" so frequently that it seems monotonous. But this is done to contrast the mental process with the use of devices.

She has not given full details, and has omitted some that would show the work in a clearer light.

The lesson itself did not seem closely planned, for both teacher and children were taken un-awares, and lost their self-possession. But that is what teachers must expect. Visitors can not always send word when they are coming.

The class visited was a sixth grade, and a bright set of boys and girls, but they did not do very bright work. This was perhaps better for our purpose than really good work would have been.

S. E. HARWOOD.

CARBONDALE, ILL.

THEORY AND PRACTICE.

The following interesting "poem" and exercise appeared in the last Method Number of *The School Journal* (New York, Nov. 21.):

THEORY AND PRACTICE.

(Dec. 25, 1642.)

Sir Isaac Newton had two cats,

A mother and her kitten,
And in connection with the three
There's been a story written,
And handed down to us as true—
We give it in a rhyme to you.

These cats, unlike most of their kind,
Demanded much attention;
Where one would go the other would
(Which we need scarcely mention;)
What troubled good Sir Isaac sore
Was so much scratching at his door.

When he'd sit down to meditate
On one theme or another,
His feline pets were sure to come
And put him to the bother
Of getting up to let them in,
And oft he'd lose his subject clean.

A happy thought at last arrived
That would adjust the matter,
'Twould please the cat, the kitten, too
(Especially the latter)
He made two holes, one large, one small.
Through which his favorites might crawl.

And now the great philosopher,
Intent on observation,
Was to behold his wondrous plan
Put into operation;
Through the large hole the old cat came—
The kitten followed through the same.

QUESTIONS.

Who was Sir Isaac Newton?

Tell briefly anything else that you know of his life and services to science.

What is the joke related in these verses?

How do you account for the fact that so great a man, who could see wondrous things in nature that no one in all the history of the world had seen before him, could overlook so simple a thing as the ability of the kitten to pass through a doorway made for the cat?

Can you think of any law in optics that this incident suggests?

The law I am thinking of is this: When the eye has been engaged in examining large and distant things it can not immediately see with clearness what is small and near, but must first go through a process of readjustment. Can you see an analogy in this to the great philosopher's habitual mental condition?

Think this analogy out as well as you can and write something about it. See if you can find any connection between what we may call mental farsightedness and what is commonly called "absence of mind."

THE SECRET.

Within the recess of some quiet heart,
A secret most profound is resting now.
A tale of love, of passion, or a vow,
Respected and secure. Go to the mart
And learn from others, what indeed thou art,
And read the mystery of each lip and brow;
Of silent suffering, or of souls that bow;
Of dreams not realized, and tears that start
At mention of a name. Could we but read
The hearts of those that suffer, and relieve
The weary of their burdens, what a gleam
Would light the world! Immortal peace, indeed,
Would flourish e'er, and who would not believe,
That life were then, a peaceful, quiet dream.

WILLIS WILFRED FOWLER.

MARTINSVILLE, IND.

VENTILATION.

Ventilation in rooms where large numbers are collected is a condition of health and life. Privation admits of no excuse. * * * What shall we say of stinting and starving a child in regard to this prime necessity of life, fresh air? Of holding his mouth, as it were, lest he should obtain a sufficiency of that vital element which God, in His munificence, has poured out, a hundred miles deep, all around the globe? Of productions reared or transported by human toil there may be a dearth. * * * But to put a child on short allowances out of this sky-full of air is enough to make a miser weep.—*Horace Mann.*

PRIMARY WORK.

MISS LAURA FRAZER, Supervisor Primary Grades,
Terre Haute Schools.

THE CHILD-HEART.

The Child-heart is so strange a little thing—
So mild—so timorously shy and small,—
When a *grown-up* heart throbs, it goes scampering
Behind the wall, nor dares peer out at all—
It is the veriest mouse
That hides in any house—
So wild a little thing is any Child-heart!

Child-heart!—mild heart!—

Ho, my little wild heart!—

*Come up here to me out of the dark,
Or let me come to you!*

So often at times the Child-heart needs must be
With never one maturer heart for friend
And comrade, whose tear-ripened sympathy
And love might lend it comfort to the end,—
Whose yearnings, aches and stings,
Over poor little things
Were pitiful as ever any Child-heart.

Child-heart!—mild heart!—

Ho, my little wild heart!—

*Come up here to me out of the dark,
Or let me come to you!*

Times, too, the little Child-heart must be glad—
Being so young, nor knowing, as we know,
The fact from fantasy, the good from bad,
The joy from woe, tho—all that hurts us so!
What wonder then that thus
It hides away from us?—
So weak a little thing as any Child-heart!

Child heart!—mild heart!—

Ho, my little wild heart!—

*Come up here to me out of the dark,
Or let me come to you!*

Say, little Child heart, you have never need
To fear us,—we are weaker far than you—
Tis *we* who should be fearful—we indeed
Should hide us, too, as darkly as you do,—
Safe, as yourself, withdrawn,
Hearing the world roar on
Too willful, woful, awful for the Child heart!

Child-heart!—mild heart!—

Ho, my little wild heart!—

*Come up here to me out of the dark,
Or let me come to you!*

—FROM *A Child-World* by JAMES WHITCOMB RILEY.

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THE CONVOCATION OF MOTHERS.

There is no lack of evidence that the world moves. To one who is alert to catch the signs of the times and thoughtful to interpret them, these signs are most hopeful. Gradually is coming the fulfillment of the prophecy implied in the lives of Pestalozzi, Froebel and Herbart—a prophecy and promise which is uttered by every great life to the lives following it—"The works that I do shall

ye do also, and greater works than these shall ye do." The "works," which in the past were done only by such pioneers as those named, are now being taken up everywhere by thinkers in the field of education. As the next step is generally taken, and this heritage of truth descends to the rank and file of teachers and becomes the working principle in their schools, the cycle will doubtless be made complete by the arising, out of the new conditions, of a mightier educational prophet who will proclaim the yet "greater works than these."

The point to which the tide has risen, thus far, was clearly marked by the Convocation of Mothers, recently held in Chicago under the auspices of the Chicago Kindergarten College. This college will have an interest for many teachers when it is known that it numbers among its faculty, Professor Denton J. Snider and Mrs. Ruth Morris Kerssey, both well known educators who have had an influence upon the public school work, and Elizabeth Harrison, author of "A Study of Child Nature."

In the college, among other courses of study, is one known as the Mother's Department. This consists of three year's work, occupying two hours per week for twenty weeks each year. The time is taken in study, lecture and discussion, relative to both the theory and practice of child-training. Many mothers awake to the importance of the work, and interested in the right training of their children are taking advantage of this course. The Annual Convocation of Mothers is but the natural outgrowth of this branch of educational work. When to a mother's love is added the insight arising from knowledge, and the inspiration coming from contact with others of kindred interests, it is not to be wondered at, that there should be evolved from so rare a combination, a rare type of educational meeting. And such was the Convocation held in Handel Hall, November 11, 12 and 13.

It was more broadly educational than its name would imply, though not more so than the name *should* imply. Those who spoke and those who listened, were by no means limited to mothers of children. Professor John Dewey, facetiously remarked in beginning his address: "As this is a Convocation of Mothers, I suppose an apology is due from me that I am only a father." From that standpoint, many who attended, owed a more profound apology than did Professor Dewey—being neither mothers nor fathers.

The meeting was made noteworthy by three things: the character of the audience, the ability of the speakers, and the advanced educational thought expressed.

First, as to the character of the audience. Among the hundreds who crowded the hall, were the graduate and undergraduate mothers of the college course, kindergartners, educators of various rank and others interested in education. The oneness of interests created a magnetic influence which seemed almost tangible. With such a background, even a less striking program and array of speakers might have stood out in bold relief.

As to the educators taking part in the program, nothing need be said further than to name a few of them. Such names as Colonel Francis Parker, Mrs. Frank Parker, Professor John Dewey, Josephine R. Locke, Dr. Chas. McMurry, Professor Denton J. Snider, Amalie Hofer, Professor W. L. Tomlins and Reverend F. W. Gunsaulus, are a sufficient guarantee of an educational treat. These and other names drawn from the resources of Chicago, arouse one to a realization that that city has become an educational center.

But above audience and speakers, the great element in the meeting was its type of educational thought. Indeed, the speakers were great, because they lived and bore a great message. The audience was unusual, because it was held in the bond of a common sympathy and insight into truth. The points touched in the different addresses were many and varied. They seemed to run the whole gamut of child-nature and nurture. But they may all be unified under a few principles well known and universally accepted, and lacking only to be practiced in order to revolutionize the world. These will be briefly stated, together with a few of the applications made of them in the course of the Convocation.

1. *That which the child is, or his present nature, is the first factor in determining the process and means of his education.* Touching upon this point in his address, Professor Dewey of Chicago University said: "Every failure to conform to this law (of the child's nature) makes our effort as futile as that of the engineer or artist who fails to conform to the law of his material. We would not attempt to run a locomotive without understanding its law; but we do attempt to run a child without understanding the law of its being. The present stage in a child's development is a record of the past, a prophecy of the future, and a key to the present dealing with the child. The child is the past race concentrated."

In line with this, Professor Dewey called attention to various child characteristics which are often looked upon as mere caprice, but which to the student, reveal kinships to prehistoric man. For example, the affinity which children show for climbing, especially for the climbing of trees, is a relic of the nature of man at the time when he had

not yet learned to provide himself with shelter and defence, and consequently took refuge in trees.

Speaking of the child's present condition as the key to our dealing with him, the speaker continued: "We must deal with the child where he is—not where he was or where he is to be. He is an elusive creature and our efforts are of little avail unless we commence with what he is and is doing."

2. *That which the child is to become or his potential nature, is the second factor in determining the process and means of his education.* Colonel Parker, in his excellent address on "The Child of To-day—The Citizen of To-morrow," sought thus for the end to be reached in education. "Wanted—an end and aim, a clear distinct goal for education! For this there is a magnificent reward! In every other profession there is a definite aim. The doctor has sickness to cure. The minister has souls to save. What is the end and aim of education? The aim upon which the practice of to-day is based is knowledge. Witness the examination, the course of study, the public opinion that demands that the child shall go through the book. Not what you can do, but what you know."

After discussing other aims which are held, and setting them aside as inadequate, he set forth what he conceived to be the true end in education; namely, the fitting of the child to live intelligently, sympathetically, and effectively for others. "The school should be a little community—an ideal community. The child should be a citizen in that community. * * * If I know anything about children, this is the greatest thing about them—they want to do something to be of use to others. This is the dim and vague, but strong and deep feeling of every child. Children go wrong because they fail to be recognized. The school must be the place where the child can work out his life for the good of others. The one way a child can work out his life is to live for the community. 'Education is not a preparation for life, it is life.'

"What is the core of morality? It is the feeling that what you do helps others. The child reads aloud, he writes, he paints, he works for others. No child is too small to feel this one thing. Following this one guide, we are made everlasting students of education. We have, as yet, but touched the hem of the garment. We have but begun. The child is to be made to feel his dignity and power through work for others, not through words and precepts."

Speaking upon another phase of this point, Miss Amalie Hofer, one of the editors of the *Kindergarten Magazine*, said: "The child must have typed to him in adult life that to which he is striving."

3. *The different phases of child life, intellectual, moral and physical are inseparably related.* A witness to this truth, was the entire program of the Convocation of which "The Child," as a complex whole, was the subject. Particularly, was emphasized the fact so often lost sight of in primary schools, that the child's physical activity is the outflow of his spiritual nature, and should continue as such. Said Julia E. Bulkley of Chicago University: "All child activity is in harmony with thought. It is activity from need—from motive."

Professor S. H. Clarke, also of Chicago University, in his talk, "A Hint on Physical Culture," said: "Physical culture should be based upon incentive. You cannot always be doing *this* (suiting the action to the word the Professor went through a series of rapid and violent arm exercises) without making your mind the same way. These exercises are all right in their place, but their place is not with little children." Professor Clarke advocates the substitution, with children, of exercises prompted (1) by imagination; for example, the upward movement of the arm may be had by the imagined lifting above the head of a heavy weight; (2) by the playing of physical games, in which the child is conscious of his motive, rather than of his action. If the reverse is true, and the movements are made consciously and for their own sake, the child loses his spontaneity, and a painful self-consciousness gradually takes possession of him.

The converse side of this relation between mind and body was brought out in an excellent talk, entitled: "Reflex Action of Habitual Bearings and Attitudes Upon Thought," by Mrs. Frank Parker. The sunken chest and drooping head are not only an expression of fear, but they constitute a position which, if persisted in, will bring about in the individual a shrinking and fearful nature. On the other hand, the active chest and erect head slowly but surely strengthen the character in courage and fearlessness. Habitual attitudes in children, if rightly understood, give a clue to their character. "Character development should go hand in hand with physical development."

Professor W. L. Tomlins, in speaking of "The Child Voice," urged that the music work given to children, should be the expression of a musical thought, rather than the repeated singing of the scale. "Do not give much music notation," he said. "It is a mere incident that the tones are arranged as they are." Professor Tomlins views the scale as the musical alphabet; and just as in teaching a child to read, we first lead him to the consideration of a thought, leaving the alphabet to be learned gradually and incidentally, so in

music, the child must learn tones **first** as an expression of his thought, and **secondarily** and incidentally as elements in a musical scale or alphabet.

4. *Education is the passing of the child from what he is, to what he is to become through self activity and development, rather than through forced activity and learning.* The subject of the child's own activity was more thoroughly considered perhaps, than was any other on the program. It came up in the great majority of the addresses, and was the topic of several earnest general discussions. How far shall the child's spontaneous activity be allowed free play, and at what point shall it meet and be governed by law?

Mrs. Alice H. Putnam in a paper entitled, "Is Spontaneity Opposed to Law in the School and Kindergarten," said: "Law is not a code of management. It is a principle without which life could not be lived in its fulness and rightness. Spontaneity is simply one form of the working out of law—of inner necessity. There is no conflict at the heart of the matter. Subjecting a child to law is not making him love and truly obey law. There is only one way to guide a child—insinuate into his spontaneity a love and desire for the right and pure and good. The seed must and will germinate."

Said Professor Denton J. Snider, "Spontaneity is the *law* of childhood. They are two halves of one whole."

Speaking of the demand that the learning found in present school systems be superseded by active thinking on the part of the pupils, Dr. Chas. McMurry said: "What a relief it is to take refuge behind the school course and to hide inside the covers of a text-book from these cruel assaults of the outside world!"

Dr. Gunsaulus characterized the products of such false teaching as cisterns, tightly walled, well piped and full to the brim; contrasting this with the figure used by Jesus of the "well of water *springing up* into everlasting life."

5. *There is an order in this development.* Professor Dewey in his address on "Growth and Unfolding of the Child's Mental Faculties," from which extracts have already been given, said: "There is an order in the development of life. If we knew what that statement meant, practically, it is not too much to say that systems would be revolutionized."

He briefly outlined four periods characterizing the physical and mental development of every normal child. These stages are very elastic of course as to their time limits, some children reaching a given point at a much earlier and others at a much later period than the average child.

a. The earliest years of childhood are given

mainly to the discovery and gradual control of the physical powers. From the first spasmodic movements of hands and feet the child gradually passes to the directed movements of handling and walking. As two or more simple movements are mastered, they are coordinated and there comes to be unity, or harmony in the expressive acts.

b. The period of occupation which succeeds infancy is marked by the tendency in the child to reproduce the life about him in his play. There is now some idea back of all his doing. He pounds because for the time being he is a blacksmith, or runs because he is an imaginary locomotive. His consideration of a walking stick, for example, does not result in ideas of length, smoothness and hardness, as in the first stage but in its transformation into a charger upon which he rides into a fancied battle.

The kindergarten is admirably adapted to this stage of the child's life. Games and interesting occupation are of necessity the means by which his nature expresses itself, and the fact that in the kindergarten these are carefully selected and systematically presented brings about a symmetry of development which otherwise would be impossible. When it is known that most children are yet in this second period at the age of six years, the necessity becomes apparent of bringing about such changes in the primary school as will better adapt it to the child's needs at this particular point in his unfolding.

c. The third period Professor Dewey designated as one of interests. The child has, of course, had interests from the first. But in the preceding period his interest was in the thing he was doing at the time he was doing it. Now it takes a wider range and a less material tone. His play is less physical and more purposive. He *feels* himself doing many things which he does not really accomplish, nor indeed expect to accomplish. He talks a great deal about what he would do under given circumstances.

This period in the average child occurs between the ages of seven or eight and twelve or thirteen, "How far does the school utilize this phase?" asked Professor Dewey. Dr. McMurry also emphasized the need of basing school work upon the natural affinities of childhood. The work of the school should be broad enough to compass a child's interests.

d. In the fourth stage, or that of Adolescence, the child attempts to become conscious of social relationships. He thinks of himself as he imagines others think of him, and on the other hand becomes critical of those about him. These symptoms mark the dawning of a social self-consciousness.

6. A final lesson taught by the Convocation was the great advantage which comes from a sympathy between the home and the school. At those sessions were mothers and teachers discussing together problems relative to the child with which both had to deal. There can be but one result from such a condition of affairs—the result which always comes when two forces acting upon the same body act in harmony instead of in opposite directions.

The school must take the initiative in bringing about this bond of sympathy. It is a *system* while the aggregate of the parents in a community are not. The school is the organized, equipped, powerful factor and as such is looked upon with more or less of awe too often mixed with distrust and opposition by a large percentage of its patrons. This feeling could be melted away by one generation of sympathetic, earnest teachers, having a love unfeigned for the other half of humanity.

When the child sees that a kindly, charitable feeling exists between his parents and his teachers, when he feels that the two great forces of his life are pulling in harmony, he will have taken a long step towards learning the unity of the universe. It will be to him the dawning recognition of a world order.

DRAWING IN THE PUBLIC SCHOOLS.—I.

ITS AIMS AND PURPOSES.

To be a success, any branch of the public school work must have the support of the community, and to have such support, the parents of pupils and others interested in the schools must have proof of the true value of that branch of the work.

The value of drawing, or better, of form study and drawing, is perhaps, not so easily seen and appreciated as that of many other subjects taught in our schools, but we believe that it has been seen and recognized on a much broader basis during the last few years than formerly.

When drawing was first introduced into the public schools of our country it was taken up first, we are told, by the schools of Massachusetts. Drawing was then placed in as practical a light as possible, the time given to designing being the lion's share, as the public, with very little thought, could see the immediate practical bearing of such study. But now we try to give a broader development, as it is no longer necessary to have the immediate practical results so evident. And why not? Simply because teachers and parents are much more alive to the development of the child's mind, and have a truer idea of what education is. The value of any study is now considered, by the average teacher, more from a psychological standpoint than twenty years ago. We are now seeking sub-

jects and means with which to develop the existing powers in a child's mind, rather than to train his memory to store and reproduce printed statements of facts at the expense of perception, imagination, much attention of the best kind, and other mental powers. Educators claim that drawing is one of these subjects.

Let us see what form study and drawing, when properly taught, may do for the child. We might call it form study and expression, for all drawing should be the expression of images gained through studying form, by touch as well as by sight. Pupils must have models to study, and of such a kind as to be easily handled. The writer of this series of papers supposes that models are used by pupils for form study, and that these models are type forms; that is, typical of many like-formed objects, and embodying the same principles in their representation. Every drawing must have back of it a clear mental picture. How is this to be obtained and of what use is it?

Form study implies observation, a development of the perceptive power, and this activity not only strengthens the faculty itself, but adds images to the mind, and these images will be clear and correct if the form study is properly conducted. In the drawing, or expression, we have a test of these images; for, as clear oral expression can come only from clear thinking, so correct drawing can come only from correct images, and the drawing shows the exact state of the child's mind.

Anyone who can see, can draw. That sounds extravagant, but is it not true? A child draws an apple, and the drawing represents the object much flatter than the object really is. He doesn't see but that it is all right. Plainly, that child cannot see, or he would observe the difference between the object and the drawing. His mental image is not correct. Another child draws the apple and he represents it too broad. He sees that the drawing is not like the object, but can't tell where it is wrong. He can see more than the first child, but not enough to locate the faults in his work. His mental image is not correct. Another child draws the apple, and he represents it too high. He sees the error, and corrects it, making it like the object. That child can see. He has a correct mental image, for which kind of an image we should strive in all our form study.

Many say: "I can see a beautiful sunset, but I can't represent it—I can't make a picture of it." To be sure, he does see it, but not clearly and correctly. He doesn't see the general color scheme, at the same time observing its elements, the shape, color, and relation of these elements, seizing, at the same time, the essentials. If he did, he could paint it. Ability to express with pencil or brush

of course necessitates a certain amount of manual power,—power of mind over hand, but beyond that it requires only observation. However, manual training and observation will not make pictures that move nations, though they would make representations that train the mind in many ways; for the soul of the artist, through these means, stirs the emotions. If anyone is lacking this "divine afflatus," the observation of "the good, the true, the beautiful" will help to develop it. Ruskin says: "In the sight of God, all knowledge man can gain is as nothing; but that his soul, be it ignorant, be it wise, is all in all, and in the activity, strength, health, and well-being of this soul lies the main difference, in His sight, between one man and another. And that which is all in all in God's estimate, is also, be assured, all in all in man's labor; and to have the heart open, and the eyes clear, and the emotions and thoughts warm, and quick, and not the knowing of this or that fact, is the state needed for all the mighty doing in the world."

Things interest children. A child will give his attention voluntarily to the study of an object, when his mind would be in far Japan were you to describe some form to him, hoping to have him to get a clear mental image second-hand. Voluntary attention is what we want, and form study and drawing will develop it, if properly presented.

The images gained through perception are the store in the mind on which the imagination draws. In our work, we not only lay by a supply, but through illustrative work, design and other exercises, we bring the imagination into activity, in which activity it calls upon the stored images, combining them variously, and through its own exercise, every faculty grows.

In decisions regarding size, shape, proportion, relation of parts and placing work, the reason and judgment are developed, and in every decision the will-power has its share of exercise.

Not the least important is the manual training resulting from form study and drawing. Every line drawn, every model handled, every clay model made, every folding of paper or laying of sticks, is fitting the child to be a master at any occupation requiring the use of the hands. Elementary manual training is not so wide-spread in our schools as form study and drawing, and let those of us who have the latter, and not the former, be thankful that the two have so much in common. A child learns by doing. Sometimes a child can do, who cannot think readily, and through the doing his whole being is quickened, his self-respect and power of self-reliance strengthened, and with the strength of will developed

through making muscles do his bidding, he gains a greater power over the faculties of his mind.

Many read pages of description in connection with history, science or fiction, and no clear mental pictures are found. Imagine the advantage in power to visualize that a child has, who has been trained for years to store up clear images, then to recall them and make with his imagination, new combinations, suggested by what he hears and reads. Illustrative work, much of which is given in our public schools, is a great factor in developing this visualizing power.

Then, there are habits of neatness, accuracy, promptness and obedience developed. The drawing lesson will show a school's good and bad points regarding discipline and habits of mind, to a greater degree than any other subject.

The study of objects broadens immeasurably a child's horizon, and turns his mind to things outside of himself and away from the evil grafted on his mind through the many channels that evil always finds.

Trying to do for ourselves helps us to appreciate like efforts in others. Painting, sculpture and architecture mean more to those who know the difficulties connected with their accomplishment, and the good is more easily recognized by those who have been striving to achieve it themselves. This appreciation of others and their work must result in making our children more open-hearted, unselfish and broad.

We hear so much about developing the individual. What helps to do this in our schools, more than form study and drawing? If properly taught it is each for himself always, and the work of each is an index of just what the individual is—of his strength and his weakness, of his past, present and future.

Should we work for results? No, but we should get them, for if the pupil's mind is right, his expression will be, and the molding of the mind is in the hands of the teacher.

L. DORRIT HALE,
Supervisor of Drawing.

EVANSVILLE, INDIANA.

DEEDS.

Deeds survive the doers. In the highest and most philosophic sense, the asserted brevity of human life is a fiction. The act remains, though the hand that wrought it may have perished. And when our spirits shall have gone to their account, and the dust of our bodies shall be blown about by the winds or mingled with the waves, the force which our life shall have impressed upon the machinery of things will continue its momentum, and work out its destiny upon the character and happiness of our descendants.—*Horace Mann.*

INDIANA, AS AN OCTOGENARIAN.

"Breathes there a man with soul so dead
Who never to himself hath said
This is my own my native land."

—*Scott.*

Since patriotism and good citizenship are such important elements in the education of the young people and the children of our republic; and since that part of our national life which lies nearest their own homes makes the strongest impression on their minds, and since Indiana will pass her eightieth mile-stone on the eleventh of December, 1896, it seems a fitting time to review some points of interest in her history. We can well afford to cultivate patriotism upon local soil.

Outside the New England group there are but five states in the union smaller than Indiana. Although one of the lesser states, Indiana has very little waste land. Her 36,000 square miles are well watered by streams and lakes. There are no mountains within her borders and no high hills, except those along the Ohio River. Almost all the state is situated in the Mississippi Valley. The soil is fertile and adapted to all the cereals and grasses grown in this climate. Though touched on the north by Lake Michigan and on the south by the Ohio River and on the west by the Wabash, yet the state is penetrated by no navigable stream.

Our state is rich in minerals, coal, building stone, iron, natural gas, and oil. The extent of the gas-fields is said to exceed those of Pennsylvania and Ohio combined. Our coal-fields cover 7,000 square miles. Coal is found in twenty-four of our ninety-two counties. Our mineral springs are unrivaled for medicinal purposes. Indiana has extensive quarries of excellent limestone and sandstone. This stone has been recently used in some of the finest public buildings and residences in the United States.

Three-fourths of the state was originally covered with forests. It required twenty-five years' unrestrained destruction of trees to clear out two hundred thousand farms. About one-fifth of the state is still covered with timber, which is now worth more than the land on which it stands. Our forests contained, originally, all the varieties native to this climate. Next to the soil and minerals timber was, perhaps, Indiana's greatest source of natural wealth.

Indiana has been occupied by the Moundbuilders, Indians, French, English and Americans. Remains of fortifications, and mounds containing implements and ornaments, prove that a prehistoric race once lived in this state. The very name, Indiana, meaning the Indian's land, testifies to the former presence of the redmen. The Miamis and kindred tribes were found here by the French ex-

plorers. The first trading-posts were established at Vincennes, Thorntown and Fort Wayne; the Wabash Valley became a link in the chain of French forts extending from the Great Lakes to the Gulf of Mexico. In 1763, at the close of the French and Indian war, the territory north of the Ohio, and east of the Mississippi River, together with Canada, was ceded by France to England.

By treaty at the close of the Revolution, this territory became a part of the United States. Some histories give much space to the adventures of John Smith, the love of Pocahontas, the bigotry of the Puritans, the Salem Witchcraft, and the Boston Tea-party, but an event which led to the Ordinance of 1787, and thereby made the Northwest forever free, finds little or no mention. For George Rogers Clarke to capture from the British a few small trading-posts in the then far West, and by making friends with the Indians to gain for the colonies the dominion of a vast area, was not regarded as very important. Yet Washington never fought a battle which brought to the United States so much wealth as did that little skirmish, won by General Clarke and his band of troops, at Vincennes, early in 1779.

The Northwest Territory was organized and its government regulated by the Ordinance of 1787. In time, the five states, Ohio, Indiana, Illinois, Michigan and Wisconsin, were formed from this territory, and three quarters of a century later when secession raised its head, there went forth from these free states legions of brave men, to defend and perpetuate the Union. As to the wealth of the territory which Clarke gained, it is enough to say that it is now, perhaps, greater than the combined wealth of the Thirteen Colonies at the time of the Revolution.

Eight years were spent in struggles with the Indians. Near where Fort Wayne now stands, in 1794, General Anthony Wayne met and completely routed the Indians and their British allies from Canada, and avenged the sore defeat sustained by General St. Clair, at the same place, three years previous.

In the first year of this century Indiana was established as a separate Territory. It then contained all the Northwest Territory except Ohio. Vincennes was the capital. In 1811, at Tippecanoe, General William Henry Harrison defeated the Indians led by the Prophet, brother of Tecumseh. This was the last great Indian battle in Indiana. These events, which brought security and freedom to the early settlers of our own state, should have much the same interest for Hoosiers, that Bunker Hill has for Bostonians, or the battle of Saratoga for the citizens of New York.

Indiana entered the sisterhood of states Decem-

ber the eleventh, 1816. Three years before this Corydon was made the capital, but in 1825 the new capital, Indianapolis, was laid out and the seat of government was transferred to the central part of the state.

Indiana bore an honorable part in the War of 1812, and also in the conflict with Mexico. Reference has already been made to her action during the Civil War. Some one has said the best history of the War of the Rebellion would be a true biography of Abraham Lincoln; so the best history of Indiana during the conflict between the North and the South, would be a true biography of Oliver P. Morton, her great War Governor.

The population of the state in 1890, was 2,300,000, and our state now ranks eighth in the Union, in respect to population. The center of population of the United States is located about fifty miles south of Indianapolis.

Although Indiana's greatest source of wealth will doubtless continue to be farm products, yet the commercial and the industrial development has been rapid. No state has more miles of railway in proportion to territory. Importation of foreign goods is so great that Indianapolis and Evansville have been made Ports of Entry.

On account of the large supply of hardwood, the wood industries have prospered, and our state now contains some of the most important wagon, furniture, railway car, agricultural implements, stave and heading factories in the United States.

Before the discovery of natural gas the glass industry was unknown except at New Albany. But with the development of natural gas as fuel, many new industries were built up, among these several glass factories, which are among the largest and best in our country. The most important is the Diamond Plate Glass Works at Kokomo, which has turned out the largest plates ever made. Indiana is also coming to the front in the production of crude oil. The largest refinery in the world is at Whiting, Lake County.

Twenty-five years ago Indianapolis did not have a population of 48,000, now it has nearly 125,000. The central position of our capital in the middle West, has given it lines of communication from all directions. The city covers twenty-five square miles. It is the twenty-fifth city in the Union in population. It has one of the grandest soldiers' monuments in the world. Indianapolis has fifteen railroads, and about three hundred trains arrive and depart every twenty-four hours. These roads reach every county in the state, except three.

When the close of the Revolution gave to a free people the control of a great empire, the fact that the safety and prosperity of the nation depended on the intelligence of the inhabitants was so well

understood that nearly all the states began to provide means for the encouragement and support of schools. Great tracts of public lands were donated for this purpose. Indiana owes her present system of public schools, in great measure, to this policy of the government. No state, in proportion to wealth and population, has done more for popular education. Excellent opportunities for higher education are afforded by her colleges and universities, her normals, and polytechnic school. In 1807 Vincennes University was incorporated by the General Assembly, for the instruction of the youth in Latin, Greek, French, and English; also, in mathematics, philosophy, rhetoric, and logic.

The first school teacher in Indiana, of which we have any record, was a liberal minded missionary, who was forced to leave France during the French Revolution. He came to America and opened a school at Vincennes. The next school of which we learn, was taught near Charlestown, in Clarke County, in 1803. This school was kept "from sun to sun," with one brief interval for play. Every one is familiar with the story of pioneer school houses, school furniture, and school methods. When we study the educational history of Indiana, we see a sovereign state rising from weakness to power. All that we now enjoy was secured by the privation and sufferings of the pioneers.

Among the things which most distinguish modern from ancient civilization are reformatory and benevolent institutions. Under the influence of the teachings of Christ we are gradually approaching the idea of a common brotherhood. Under these impulses the sick, the poor, the aged and the unfortunate are provided with hospitals, homes, and asylums. The benevolent enterprises of our State are praiseworthy.

Indiana has given the country soldiers and statesmen, lawmakers and authors, that have reflected honor on their state. From a long list of men famous in public life, we select the names of Owen, Davis, Morton, Colfax, Hendricks, R. W. Thompson, and Benjamin Harrison. Our state has contributed to literature through Eggleston, Wallace, Riley, Ridpath, and others.

"In mines and manufactories, in agricultural and commerce, as in the increase of general intelligence and culture among her citizens, Indiana is fast reaching a position that promises both for the state and her inhabitants a bright and happy future."

One of our own poets, Mrs. Sarah T. Bolton, has beautifully voiced loyalty to Indiana in the following stanzas:

Though many laud Italia's clime,
And call Helvetia's land sublime,
Tell Gallia's praise in prose and rhyme,
And worship old Hispania;

The winds of Heaven never fanned,
The circling sunlight never spanned
The borders of a better land
Than our own Indiana.

"Encrowned with forest grand and old,
Enthroned on mineral wealth untold,
Coining her soil to yellow gold,
Through labor's great arcana:
She fosters commerce, science, art,
With willing hands and generous heart,
And sends to many a foreign mart,
Products of Indiana.

"Where late the birchen wigwam stood,
Or Indian braves their game pursued,
And Indian maids were won and wooed,
By light of soft Diana:
Fair cities as by magic rise,
With church towers pointing to the skies,
And schools that charm the world's wide eyes,
To fair young Indiana.

"And where some fifty years ago,
The settler's wagon lumbered slow
Through mud, and mire, and frozen snow,
O'er hillside and savannah,
The steam car, with its fiery eyes,
Like some mad demon pants and flies,
Startling the echoes with its cries,
Throughout all Indiana.

* * * * *
"But even while our hearts rejoice,
In the dear homeland of our choice,
We should with one united voice,
Give thanks, and sing hosanna
To Him whose love and bounteous grace,
Gave to the people of our race
A freehold, an abiding place,
In fertile Indiana."

LENORA NEWLIN HOBBS.

BLOOMINGDALE, INDIANA.

INDISPENSABLE REQUIREMENTS.

It is not indispensable to the happiness of children that they should know the length of all the great rivers, or the height of all the great mountains, upon the globe; but it is indispensable to their happiness that they should love one another, and do as they would be done unto. A life spent in obscurity and supported by daily toil may be full of blessings; but no worldly honors however high, or wealth however boundless, can atone for one dereliction from duty in acquiring them.—
Horace Mann.

"Life-earnestness is the gift of gifts, and the inspired work of the true teacher knows no bounds, except those which God's horizons and laws of spiritual gravitation impose. She, who is always at her best, being and doing the best that then and there in her lies, with no suggestion of stint and every unconscious suggestion of love, of solicitude, of self-sacrifice, is giving off virtue from her very garment's hem."—DR. S. L. ELLIOT.

TOWNSHIP INSTITUTE WORK FOR 1896-97.

FIFTH INSTITUTE.

SPELLING.

- I. Method of spelling is the natural process. A child
 - a. can understand the important letters of spelling.
- II. Spelling Match.

1. The subject matter of spelling is the written word as to its correct form, the letters of which it is composed and their proper arrangement.

III. Purpose.

1. The ultimate purpose in teaching spelling is to give the student the power to write words correctly when expressing his thought.

Note. Spelling deals with the form of words and the pupil should be trained therefore to observe form carefully.

Since the pupil learns to spell in order that he may write words correctly in expressing his thought spelling should be primarily written work and only incidentally oral. But English spelling will not be learned if dealt with only incidentally. To deal with it incidentally means, as a rule to slight it. Neither will it suffice just to spend fifteen minutes each day in writing words selected at random by the teacher. Spelling, whether it pays for the time spent on it or not, if learned, must receive the due and careful consideration of both teacher and student.

IV. Steps. In general the following:

1. A line of copy work.
2. A line of dictation work.
3. Spelling the necessary words to express the thought when the mind is engrossed with the object of thought.
4. A line of work in which the difficult points in the words are worked out, together with the grounds for the difficulties.
5. Building up lists of words from stems, their spelling and the analysis of lists of words into roots and affixes.

V. Illustrate the procedure in each of the five phases of spelling work indicated above.

VI. Introduce or Perseverance with which the above is in harmony.

Note. The teacher should make a constant effort to lead the child into the habit of observing language forms in all his written work. Word lists for spelling may be made as follows:

1. Lists of words with difficult combinations to represent the elementary sounds.
2. Lists of words of the same pronunciation with differing spelling and meaning.
3. Words of like spelling, but two or more pronunciations and meanings.

(See page 13-14, State Course of Study.)

The criticism is being made of the public schools that they do not send out as good spellers as they did a few years ago. There is, no doubt, some foundation for the assertion. One reason for it is, that the pupils in the schools now do not devote nearly so much time to this subject as they did a few years ago. When the writer was a pupil in the grades, he had two spelling lessons each day, and a "spelling bee" almost every Friday after-

noon. And this was not all; during the months of school in winter, there would be an average of one spelling-match per week in the neighborhood, at night, and a large per cent. of time for study was devoted to learning to spell every word in the small dictionary under the letter or letters announced. In this way, a very large proportion of time was given to the memorizing of words. I am sure the writer's experience was not an isolated one. Now, the spelling match is practically a thing of the past, and not so much time is given to the subject in a formal way in the school. The question is not whether this former devotion to the subject was a good thing, but whether it was the best thing for the education of the pupil. Then there was little, or no time given to history, literature, or primary science. Now, more or less attention is given to these lines. Then, the pupils could spell a great many more words than they had ideas; and now, they more frequently have more ideas than words which they can spell correctly. Which condition is better for the pupil? While the school may have erred in giving to spelling more than its share of time a few years ago, it is probably true that its tendency is now to go to the other extreme, and give it less attention than its importance demands. In fact, the most extreme position, held in some quarters, is to give it no systematic treatment, but allow it to be swallowed up by other branches of study, and receive attention only incidentally.

These extreme views of spelling must grow out of a lack of careful attention to the scope of the subject, and its relative educational value. Has spelling any distinct scope, and does it merit systematic treatment and a place on the school program?

There is a group of subjects called language studies. They are grammar, composition, reading, literature, spelling and writing. The unifying thought in language is that language involves a known object, the expression and their correspondence. The variety of emphasis placed on the known object is the basis for grammar, composition, reading and literature. If the attention is on the object, and it is viewed as a thing with an attribute, it is the basis for grammar. If the known object is viewed as a something to be expressed for the purpose of producing a certain effect in some one, it is the basis for composition. If the known object, *real* or *ideal*, is viewed as a something already expressed for the purpose of producing a change in one, it is the basis for reading. If the known object is viewed as an idealized object expressed for the purpose of producing an effect in one, it is the basis for literature.

The variety of emphasis placed on the expression, is the basis for writing and spelling.

If the expression is viewed as to its visible characters in relation to their script form, it is the basis for writing.

If the expression of the known object is viewed as a symbol composed of a succession of characters viewed in relation to the sound, it is the basis for spelling. Hence, spelling gets its subject-matter mainly from the emphasis of the expression side. The activity involved in the subject of spelling is the language activity, with the emphasis upon the particular phase of the expression stated above.

NOTE.—For a discussion of language as a branch of study, see Vols. I and II of INLAND EDUCATOR.

We shall not follow the formal discussion of the method further, but turn attention to the lines of work in spelling. This subject, like every other branch of study, has its *theory* and *art* sides. These cannot be divorced, because one is the counterpart of the other. The theory is the *life*—the *basis*—the organizing element of the art side. To learn spelling, the pupil needs to learn both, and in doing this, he follows the same general psychological process that he does in other subjects, viz :

First, he studies particular facts.

Second, he grasps the general law or principle.

Third, he masters particulars by applying the concept or law to them.

The circuit of thinking is not from the particular to the general, nor from the general to the particular, but from the particular to the particular through the general. The first two steps bear most strongly on the theory side, and the last one immediately on the art side.

There is one line of work then which may be very properly called the basal line of work, or learning how to spell, and a practice line of work, which is the practice or drill side, in which the power to spell is made strong.

We have noticed the scope of the subject, and now we shall notice some of the most important features of what we have called the basal line of work.

1. The pupil should grasp early the principle of *analogy in form and sound in words*.

The pupil first sees the principle to some extent by dealing with simple words as wholes; as *pan*, *ran*, *man*, etc.; *hat* *cat*, *rat*, etc.; *dog*, *log*, *hog*, etc. Then as he begins to analyze words into their parts as standing for their corresponding sounds, he reaches some of the simple laws of representation, based on the law of analogy; as,

a. *a* followed by a single consonant, must be followed by *e*, as, in *mate*, *rate*, *hate*, *skate*, *date*, *late*, etc.

b. *a* is followed by a consonant only, as in *hat*, *mat*, *rat*, *eat*, *bat*, etc.

So he observes many simple laws, which, as he advances, he may grasp in still more general form.

This work is derived from his language work, and is not only a basis for spelling, but also his reading, and incidentally, all the work he does.

2. Early in the course, perhaps about the second grade, the pupil should master the table of equivalents. First, of the vowels, and second, of the consonants.

III. The sound of a (long) is represented by *a*, as in *pray*; by *e*, as in *prey*; by *ai*, as in *brain*, *stain*, etc.; by *ei*, as in *veil*, and perhaps other ways.

Working out each vowel with each sound, and then each consonant with each sound, where there is more than one, equips the pupil with material that is essential to his power over words. It helps to make spelling more than the mere memory of separate words.

3. The mastery of the rules for spelling certain classes of words. For example—"In a word ending in final consonant preceded by single vowel, the final consonant is doubled when adding a suffix beginning with a vowel," as in *betting*, *fretting*, *putting*, etc.

These rules, when mastered, give the pupil a major premise in thinking the spelling of certain classes of words.

4. The mastery of the *common way* of representing sounds in words. For example: *sh* at the beginning of a word, as in *shut*, *shade*, *shore*, etc. The sound of *l* at the end of a word, as in *particle*, *principle*, *startle*, etc.

Here, the pupil should not be allowed to reach a conclusion as to the *common way* from a few words that he may think of at one sitting, but from the making of a large list by searching the speller and dictionary, and from his other lessons.

5. Work with words formed on different bases:

a. *Derivation*, as *position*, *posited*, *composite*, *expose*, *depose*, *compose*, etc.; *benevolent*, *malevolent*, etc.

b. *Suffixes*, as in *ex*, *com*, *bene*, *male*, etc.; *ion*, *ing*, etc.

c. *Meaning*, as *principle*, *principal*; *rite*, *write*; *cite*, *site*, *sight*; *strait*, *straight*, etc.

6. Rules for syllabication and accent.

These six phases of work are to be distributed through the grades so that each shall be a basis for the ones that follow as far as possible.

Having noticed briefly the basal line of work which is intended to make the pupil master, to a fair degree, of the common principles on which the spelling of words is based, we shall next notice the line of work which we have called the art, or application side. This falls into two phases:

1. A line of work would be taken in each grade after the second, which is to be special and critical work, with words as to the difficulties

involved in them. The teacher selects words which are adapted to draw upon the pupil's knowledge of the principles of spelling as far as learned, and may treat them as follows:

- (1.) Have pupils point out the difficulty in each word.
 - (2.) Have them show why they think the point a difficulty. Here, of course, the pupil draws upon his knowledge of generals learned before.
 - (3.) Have them point out the thing to be remembered about the spelling of the word.
 - (4.) Have them fix the spelling by repetition, both orally and in writing.
3. A line of work intended to give freedom in application:
 - a. By having the pupil learn a liberal list of examples under each point studied.
 - b. By drill on the difficult words occurring in his lessons from day to day. Teacher placing such words on the board for observation in recitation when they are in connection with their meaning, and then testing them frequently orally, and in connection with their written exercises.
 - c. By miscellaneous drills on miscellaneous lists of words.

While spelling is not so important in educational value as history, geography, natural science, grammar, reading or arithmetic, it is important enough to merit some time for systematic treatment, and is too important to be swallowed up in the treatment of other subjects. It may be re-inforced in all other studies because it has its application in them, and in this fact lies the ground for its correlation with them. It is adapted to give a high degree of discipline to observation, memory, imagination, conception and inference. It also gives the pupil important knowledge of a phase of language which is necessary to his mastery of language as a means of communication. Hence, it is an organic part of the course of study, and cannot be omitted, or even slighted, without serious detriment to the whole.

No attempt has been made to suggest a course in spelling for the grades, but to suggest the lines of work which may be easily adapted to suit the grades in the particular kind of school in which the subject is taught.

A. R. CHARMAN.

GUIZOT'S HISTORY OF CIVILIZATION.

(Lectures VII and VIII, pp. 186-240.)

LECTURE VII.

THE RISE OF FREE CITIES.

1. Summarize the points of contrast between the cities in the 12th and those of the 18th century.
2. State of the cities from the 5th to the 10th century.
3. Importance of the charters.
4. Social and moral effects of the enfranchisement of cities.
5. Were the cities free or servile during the feudal regime?
6. How did the cities grow during the feudal era?
7. How did the cities gain enfranchisement? Results of the enfranchisement of cities:
 - a. Unchanged relation to the government.
 - b. Formation of a new class in society.
 - c. Struggle of classes.
8. Causes of the political humility of the Burgesses.
9. Internal government of the cities.

LECTURE VIII.

EUROPE FROM THE 12TH TO THE 14TH CENTURY. THE CRUSADES.

1. The rise of *nationality* as the essential feature distinguishing modern Europe from the Europe of the early ages.

2. Periods in the development of European civilization.
 - a. Origin.
 - b. Experiments.
 - c. Development. The *crusades* the greatest event of the second period.
3. Characteristics of the Crusaders.
 - a. Universal.
 - b. National. In what sense?
 - c. Outcome of the heroic in the nation.
4. What influence put an end to the crusades.
5. Causes impelling Europe into the crusades.
 - a. The moral impulse; religious zeal against the Mohammedan.
 - b. The social state of Europe, demanding enlargement.
6. How did the crusades affect the relation of the laity to Rome?
7. Influence of the crusades on the small fiefs? On centralization?

Lecture VII.

THE RISE OF THE FREE CITIES.

In this lecture, M. Guizot points out the influence exerted during the Middle Ages by those miniature republics known as the "Free Cities." A brief review of the historical facts upon which M. Guizot's philosophic discussion is based, will help us to appreciate his comments and conclusions.

In France, Germany, Italy, and other countries of Western Europe, there were, during the Middle Ages, numerous towns which succeeded in obtaining charters from their over-lords, either by force of arms or by purchase. In some cases, the city exercised sovereign power, and maintained only a nominal allegiance to the emperor or king. Their establishment was the result of a slow evolutionary process, the steps of which we will now trace.

There was, in the fourth and fifth centuries of the Christian era, a remarkable series of migrations on the part of the Germanic tribes. These tribes were making encroachments upon the Roman Empire, and were bringing with them new ideas and modes of life. The Romans were fond of city life, and were continually founding cities in various parts of the Empire. The German invaders, on the contrary, had a contempt for city life, and preferred to live in the rural districts. As a result, a wholesale destruction of the cities followed in the wake of the Germanic conquests.

It is a fact, however, that civilization reaches its highest development in large centers of population; and the Germans were not slow to recognize this fact. The result was, that many old towns were rebuilt and new ones founded. The needs of trade and commerce and the advance of civilization generally, made the establishment of towns imperative. Now, the feudal system, when introduced into Europe, found a large number of flourishing cities; these became, of course, a part of the system, and were subject to the various and oppressive feudal dues and exactions. Many of the cities had grown rich in manufacturing and trade, and from them money was oftentimes exacted by the extortion of the feudal lords. The time came when patience ceased to be a virtue, and a "general insurrection," due to causes largely similar, occurred in the eleventh century, and resulted in establishing the practical independence of the towns; or, in what Guizot calls "the enfranchisement of the cities." This "general insurrection" of which Guizot speaks, continued during the twelfth and thirteenth centuries, and left many of the cities republics, or independent states. The German towns were subjected to but very little outside supervision, and the Italian city-republics had practically none.

It would, perhaps, be well to consider the Italian and German towns more in detail, as these afford the best types of free cities of the Middle Ages.

THE ITALIAN CITY-REPUBLICS.

The free cities of Italy were first in the order of time, and first in importance. These cities had been more generously treated by the Germanic tribes than the cities in neighboring countries, and were also less molested by the feudal lords, since feudalism was not as strong in Italy as elsewhere. Their trade with the East, was, however, the principal cause of their importance. Venice, Genoa, and other Italian cities, had amassed enormous wealth in the lucrative eastern commerce. Political power followed in the wake of material prosperity, and in the latter part of the thirteenth century, we find in Northern Italy about 200 cities, practically independent, and acknowledging the authority of the emperor or pope only in a merely nominal way.

The condition of Italy was not unlike that of Ancient Greece, when the city was the political unit. The civilization of these little Italian commonwealths was the highest which Mediæval Europe produced.

For mutual defense against the encroachments of the German emperor, the cities of Northern Italy formed the Lombard League, with Milan at its head. An important battle was fought, in which the cities were successful, and in 1183, the Treaty of Constance assured them the right to govern themselves. They made a good beginning in federal government, but their patriotism was *local*, and not *national*. This was fatal. The rallying cry of Venice was: "Venice first, Christians next, and Italy afterwards." They were not broad enough to present a united front to a common enemy, hence, the league is soon shattered, and the individual cities reduced to foreign subjection.

THE FREE CITIES OF GERMANY.

The Hanseatic League (1300) was to Germany, what the Lombard League was to Italy. About eighty-five of the cities of Northern Germany, combined in this league for common defense against the plundering feudal nobles and the numerous pirates which infested the seas. These cities were largely self-governing, but never attained the degree of freedom accorded to the Italian cities. The league was a power during the period of its prosperity, but was dissolved in the seventeenth century.

M. Guizot devotes an entire lecture to the discussion of the influence of these mediæval cities, yet, it may not be amiss to summarize and emphasize some of what seem to be most important points.

From a *commercial* standpoint, these cities are important, since they developed into the great trade centers of the Middle Ages, and laid the foundation of modern European commerce.

From an *artistic* and *literary* standpoint, the cities, particularly those of Italy, are of surpassing importance. In the pages of Florentine history, we find the names of Dante, Michael Angelo, Galileo, Vespucci, The Medici, and others of scarcely less importance in literature, art, and science.

In these cities, representative or self-government was developed. Their inhabitants, as Guizot shows, correspond to the third estate in

France, and the commons in England. "In a word, municipal freedom was the germ of national liberty."

Lecture VIII.

THE CRUSADES.

If we would appreciate the underlying motives which prompted the Crusaders in their actions, we should translate ourselves, in so far as possible, to the atmosphere of the Middle Ages.

The Crusades were a series of military expeditions, originated in Europe, for the purpose of rescuing the sepulchre of Christ from the hands of the infidel Turks. Religious expeditions to holy places had been made since time began, but in the tenth century there was an additional and very potent reason why such pilgrimages should be made. The belief was widespread that the end of the world was near, and many a hardened sinner wished to blot out the misdeeds of a life-time by making a pilgrimage to the Holy Land. Thousands turned their faces toward Jerusalem. All went well until the Turks began to maltreat and persecute the visitors. Gradually the pilgrims began to entertain the idea that it would be well to rescue the holy places of Palestine from the infidels. This idea transformed the "pilgrim into a warrior," and was the main cause of the Crusades. In addition to the one principal cause there were several auxiliary ones. That which Guizot calls the "social excitement," or the love of adventure was doubtless prominent. Some also joined the Crusades from purely commercial motives, others from motives of a political nature, and still others to escape punishment for crimes committed. This latter could be done, as the Church assumed the protection of the persons and property of the Crusaders. Yet, it should be borne in mind, that the principal cause was the desire to rescue the halloved places of the Holy Land from the Turks.

When this religious enthusiasm waned the Crusades died a natural death. The commercial spirit of the age, too, had displaced the barbarian love of adventure, thus subtracting a powerful auxiliary motive for the Crusades.

Concerning the good and evil results of the Crusades there is a great diversity of opinion. Certain it is that the results were a mixture of good and evil. The Crusades helped to crush the power of the oppressive feudal lords. Many of them never returned to Europe, and still others squandered their property in the undertaking and were subsequently powerless. The West, also, gained much by contact with the culture of the East. As Guizot points out, the narrow and bigoted ideas of the Crusaders were supplanted, to some extent, by more tolerant and liberal ones. From a material standpoint the West was the gainer and particularly the free cities of Italy. The trade incident upon the Crusades was enormous. The incentive given to discovery and exploration was of no small importance. In short, the general awakening caused by the Crusades led to the Revival of Learning and the grand discoveries of Columbus and his successors.

Yet, there is a darker side. Millions of human lives and untold millions of money were sacrificed, while the morals of the people were oftentimes debased. The Church, itself, was the recipient of many donations which caused it to retrograde spiritually, owing to material cares. Says Hallam: "The Crusades may be considered as material pil-

grillages on an enormous scale, and their influence upon general morality seems to have been altogether pernicious." In his comments on the results of the Crusades he speaks of the "ferocity and dissoluteness" of the people, and the "depravation of morals" which existed among the Crusaders. Gibbon's idea is much the same. Robertson takes a more optimistic view, while Stubbs maintains "that in the end they were a benefit to the world."

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THOS. F. MORAN.

PURDUE UNIVERSITY, NOV. 25, 1896.

COMPOSITION.

I. SUBJECT-MATTER.

1. Discourse in the process of construction for a given purpose as to its correctness, force, clearness, and elegance. Its subject-matter is discourse which is to be constructed for the sake of the effect which it will produce in minds other than that of the writer. This requires that every writer of discourse have thought which is really worth expressing for the sake of the effect which it will produce on the minds of those who hear it or read it. One of the chief defects in the composition work as it has been done in the schools of the state is that pupils have been asked to write when they had no purpose in writing and no thought to express. The teacher should see to it that her pupils have analyzed some subject and organized their thought concerning it about some purpose before she asks them to write.
2. The relation of composition to the other language studies of the language group.
 - a. To grammar.
 1. Likeness.
 - a. In general, they both deal with language.
 - b. They both have as one of their purposes the development of the power in the child to think readily and accurately.
 - c. Both are intended to give the child the power to use the English sentence as an instrument in expressing his thought.
 2. Difference.
 - a. They deal with different language units as a whole: grammar with the sentence, and composition with discourse.
 - b. Composition deals with language as an unfinished product, in the process of construction; while grammar deals with the con-

structed sentence, a finished product.

- c. The primary purpose of composition is different from the primary purpose of grammar in that, while both aim at thought development, composition emphasizes its expression in good, elegant, energetic English.
- d. Composition is chiefly constructive or synthetic in process, while grammar is chiefly analytic.
- b. Work out the relation of composition to the other studies in the language group as indicated in the discussion of its relation to grammar.
 1. The teacher should see clearly the relation of composition to the other language studies for the following reasons:
 - a. It will give definiteness to the work. This means organization, which means concentration in the subject taught.
 - b. It will enable the teacher to distinguish between the important and unimportant.

The language studies pursued in our public schools are spelling or orthography, orthoepy or pronunciation, reading and literature, grammar, and composition and rhetoric.

These are all alike in that they all deal with language. They are intended to develop thought and to give the pupil such a mastery of the English language as will enable him to use it as an instrument for expressing his thought.

They differ in that orthography and orthoepy have the word for their unit or subject-matter, grammar has the sentence for its unit or subject-matter, while reading and literature, composition and rhetoric deal with discourse.

Reading and literature are like composition in that they deal with discourse. But reading and literature deal with completed discourse and are analytic in their nature, while composition deals with discourse in the process of construction and is synthetic in its nature. Reading aims to give the child the power to obtain thought from the written or printed page. Composition aims to give the child the power to express thought in the written or printed page. Literature goes further than reading, and not only aims to give the child the power to obtain thought from the written or printed page but by means of this thought tries to elevate and refine his emotions.

J. B. WISELY.

On November 20th, a new school building was dedicated at North Judson, Indiana. The address was made by Superintendent W. B. Sinclair, on "Present School Advantages." The new building has eight rooms, and the whole building is equipped with modern appliances. C. E. Smith of DePauw University, is principal.

THE HOOSIER POET.

To a circle of readers composed very largely of teachers from Indiana and adjoining states it is not easy to say anything absolutely new about Mr. Riley, unless, indeed, one should manufacture material like the well-meaning, but ill-informed biographer, who declared that the Hoosier Poet was born in Maine, and then clinched the assertion by vouching for his life-long loyal Yankee spirit!

James Whitcomb Riley was born in Greenfield, Indiana, "so long ago," as he tells us, "that he persists in never referring to the date," and, rather than Yankee, he is as genuine a Hoosier as any Hoosier between the covers of his books.

We are all familiar with the hand-painted picket fences of his earlier years, and with his star tour as a base-drummer for the patent medicine outfit. We know the parental ambition to see James a practitioner at the bar, and the disappointment occasioned by the discovery that there was no rhythmical harmony between "Political Economy and Blackstone." Then there was a piece of an apprenticeship on a country newspaper or two, helping to round out the Bohemian experience by which the poet came to be.

Still more happily real to us is Mr. Riley on the platform—"a versatile actor," "realistic in the highest and best sense of the term," "inimitable in his character delineations," "true to what we all know"—such are some of the newspaper verdicts, and we recognize their truth whether we recall his earlier appearances with a lecture on "The Tree Toad" and a ream or two of confused manuscript, or his later, finer work as an interpreter of his own writings. It is said that Mr. Riley attributes the popularity of his books to the fact that the people "want to be cheerfully entertained and therefore favor the simple, wholesome, happy themes." This is right so far as it goes, but no small share of his success must be assigned to this work of the poet as his own interpreter. To confirm this fact compare your appreciation of any one poem before and after hearing its author recite it. Mr. Riley has not only created an original poetical product, but he has taught us how to appreciate and enjoy it.

The briefest biographical sketch of the Hoosier Poet must not fail to include the welcome tendered him a few months ago by the people of his native town. Mr. Riley had declared his retirement from the platform, but yielded to a pressing invitation for a positively last appearance at his old home.

The reception was not characterized by elaborate display and formality, but rather by a whole-hearted, warm, welcome home. It must have been a red-letter day in the poet's experience—a memory more to be cherished than many or all of the friendly testimonials all over the land.

Students of the future, when attempting to class-

ify and analyze the literature of the present time will find a manifest effort made toward the close of the nineteenth century to narrow the gap that separated the mind of the adult from that of the child. Not, indeed to advance childish thought to maturer things, but to study and supply the normal needs of the child. The tendency has manifested itself in a variety of ways. One phase of it is the very broad educational movement known as Child-study; another is the generous effort to offer a better grade—rather a new type—of reading for the young; for only a few years ago leading educators were deprecating the woeful scarcity of suitable selections for the lower grade school readers, and the spiritless character of the stuff that crowded the pages of those books. Now, something positively novel, and yet belonging in this classification because it brings us so delightfully in harmony with early life, is Mr. James Whitcomb Riley's latest volume, "A Child-World."

It is safe to say that no one of his former publications has been received with such popular favor. And this was to be expected, for who doesn't know Mr. Riley? Even those critics who declared not very long ago that he had exhausted himself, were curious, but the opportunity to say, "I told you so!" was happily lost, for they find the new book replete with new features. There is, to be sure, some of the familiar Hoosier dialect, but not enough to gorge the appetite; rather, we should say, just enough to season the feast of good things—at any rate, enough to show Mr. Riley's warm sympathy with the homely people and his close appreciation of their native traits.

Most pleasing, among the novel features, is the introduction here and there of delightful bits of lyrical verse. One of these, beginning as follows, is inexpressibly tender:

The child heart is so strange a little thing.
So mild—so timorously shy and small—
When grown up hearts throb, it goes scampering
Behind the wall, nor dares peer out at all!
It is the veriest mouse,
That hides in any house.
So wild a little thing is any Child-heart!
Child-heart! mild-heart!
Ho, my little wild heart!
Come up here to me out of the dark,
Or let me come to you!

Mr. Howells well declares, "One does not want to touch such poetry as this with comment, lest one should break the bloom upon it."

From recent published interviews with Mr. Riley we are glad to learn that the "Child-World" is his own world. Noey Bixler, Uncle Mart, Alex, Almon Keefer, Floretty, and the Loehrs and Hammonds were as true realities as "Bud" himself. This greatly increases our interest, and herein, too, lies the poet's art, that he can take the plain lives of simple people and invest them with a picturesqueness that appeals to human sympathy.



things everywhere. We may smile sometimes over the absurdities of a Baron Munchausen, or the fantastic adventures of a Don Quixote, but nothing torments us like reality. The experiences of Noy and Floretty and Alex are the poet's, and so too, they are ours. We reproduce from memories of our own past the scenes and the incidents which he describes and thus we live again in fond recollections.

called to school. And why? (And then, once a rare thing, a teacher was asked who brushed the hair of a child, chuckling eyes and said, "Well, John, there is no school time because they're dead and gone!")

There is a bit of narrative running through the book, just enough to give it unity, but serving rather as a thread upon which to run the descriptions, stories, songs and lyrics.

An attempt to criticize, or even to describe, the mechanism of the poetry seems useless. It is Riley's and that leaves nothing to say. He himself begs the reader to

Forgive the verse's chuckling as it does
In its erratic current.

And though we may find here and there a picturesque disregard of poetical propriety, we read on thankful that it is just so, and glad that the artist has not concealed his art by an excessive polish.

WALTER W. STORMS.

STATE DEPARTMENT.

[Many of the letters written from the Department of Public Instruction in answer to questions relative to school matters in different parts of the state are of general interest. We feel that the teachers should be in close touch with this department and we have arranged to have transcripts made of all important letters written and circulars issued and shall present them to our readers each month, under the head, "State Department."—Eds.]

INDIANAPOLIS, November 17, 1896.

Time Lost DEAR SIR:—Your favor of the 16th inst. is at hand. In answer to your question, "Are teachers compelled to make up time when the schools are closed by order of the health board?" will say that there can be no deduction from a teacher's salary for time lost by reason of epidemics, such as small-pox, diphtheria, scarlet fever, etc. See Section 4501, note 21, school law.

The court, in passing on the above question, said, among other things:

"Beyond controversy the closing of the schools (on account of the prevalence of small-pox) was a wise and timely expedient; but the defense interposed can not rest on that. It must appear that observance of the contract by the district was caused to be impossible by act of God. It is not enough that great difficulties were encountered, or that there existed urgent and satisfactory reasons for stopping the schools. But this is all the evidence tended to show. The contract between the parties was positive and for lawful objects. On one side school buildings and pupils were to be provided, and on the other personal services as teacher. The plaintiff continued ready to perform, but the district refused to open its doors and allow the attendance of pupils, and it thereby prevented performance by the plaintiff. Admitting that the circum-

stances justified the officers, and yet there is no rule of justice which will entitle the district to visit its own misfortune upon the plaintiff. He was not at fault. He had no agency in bringing about the state of things which rendered it eminently prudent to dismiss the schools. It was the misfortune of the district, and the district, and not the plaintiff, ought to bear it. 43 Mich. 480. So also of Diphtheria, 17 Oregon, 517."

From the above, I am clearly of the opinion that there can be no deductions made for time lost by reason of epidemics.

Very truly,

D. M. GEETING.

INDIANAPOLIS, November 6, 1896.

Legal Holidays DEAR SIR:—Replying to your favor of the 4th inst., in which you make inquiry concerning teaching on legal holidays, will say that p. 101, Acts of 1889, names the legal holidays as follows:

"Section 1. Be it enacted by the General Assembly of the State of Indiana, That the above recited act be amended to read as follows: The following days, to-wit: The first day of the week, commonly called Sunday; the first day of January, commonly called New Year's day; the fourth of July; the twenty-fifth day of December, commonly called Christmas day; and any day appointed or recommended by the President of the United States or the Governor of the State of Indiana, as a day of public fast or thanksgiving; the twenty-second day of February, commonly called Washington's birthday; and the thirtieth day of May, commonly called Memorial day." And p. 185, Acts of 1889, Section 66, election laws:

"All election days shall be legal holidays throughout the district or municipality in which the election is held."

In School District No. 4, v. Gage, 39 Mich. 484; and Holloway v. School District, 62 Mich. 153, it was decided that recognized holidays cannot be deducted from the time for which a school teacher contracts to teach, and his pay reduced accordingly. He is entitled to pay for such days, even though he does not teach.

From the above we are of the opinion that school management should always conform to those decent usages which recognize the propriety of omitting to hold public exercises on recognized holidays; and that it is not lawful to impose forfeiture or deductions for such proper suspension of labor. A trustee has no authority to put a clause in a contract that 'No wages shall be claimed for holidays unless actually taught.' Such a contract is contrary to public policy and inoperative.

Very truly,

D. M. GEETING.

Kokomo has organized a university extension center of 250 members, with Professor W. D. McClintock of the University of Chicago, as lecturer. Professor McClintock will give six lectures as follows: 1. Stories in General; 2. Romances; 3. Novels; 4. Some of the Laws of Form in Fiction; 5. Function or Use of Fiction; 6. A brief outline of the history of English fiction. This center was represented in the state conference at Indianapolis, recently by Mr. F. F. Hummel, of the Kokomo High School.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*PUBLISHED MONTHLY AT
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Those of our subscribers who took advantage of the arrangement which allowed them until January 1st, 1897, to pay their subscriptions, will confer a favor on the publishers if they will promptly remit without waiting for a statement.

**The Indiana
State Teachers'
Association.**

Elsewhere in this number will be found a full program of the coming meeting in Indianapolis. Superintendent Hester, the chairman of the executive committee, has certainly been able to arrange a great feast for those who will attend. It will be noticed that child-nature will form the central study of the meeting, and some of the very best educators in the state will be present and take part in the discussions. It is announced that a child-study organization will be completed at this meeting under the direction of Dr. W. L. Bryan of the State University. This meeting ought to be well attended. No teacher in the state can well afford to stay away from this annual gathering, and we are sure that every one will be more than repaid for the sacrifice of time and money in attending this one. Let us make it the largest and best meeting in the history of the education of the state. We are entering upon new times and the new movements anticipated should have the cooperation of all the teachers in the state.

* * *

**Department of
Superintendence.**

The Department of Superintendence of the National Educational Association will meet in Indianapolis in February. This will be a great opportunity for educators in this part of the country. This is usually one of the most profitable meetings that educators hold. We have not seen a program as yet, but hope to be able to make a full announcement in our next issue.

* * *

What Shall Children Read? We have another excellent article on "What Shall Children Read?" from Superintendent W. A. Millis of Attica, Indiana. This article will follow the same line of thought that Superintendent Millis has carried out so well in two previous articles, "What Shall Children Eat," and "What Shall Children Play."

* * *

**The Convocation
of Mothers.**

THE INLAND EDUCATOR was fortunate in having Miss Laura Frazee represent it at the Convocation of Mothers recently held in Chicago. Our readers will find in this issue, an excellent report of the work done at this meeting. While it is given the space of primary work, our readers will draw a world of inspiration and practical help from the expressions of those who took part. We are of the opinion that the most practical thing that any primary teacher can do, is to get in absolute touch with child-nature, and we are sure that there is a great deal of food for thought in this report.

Drawing. We are glad to present to our readers in this number, the first of a series of articles on drawing, by Miss L. Dorrit Hale, supervisor of drawing in the Evansville schools. Future numbers of this series will be illustrated, and we are sure that our readers will find much that is helpful in these articles.

* * *

Science Work. The attention of our readers is called to the practical nature of the work offered this month, under the head of Science. The suggestions made towards the study of a town or city, it seems to us, are worthy of a consideration of every live teacher. Here is an opportunity to bring the school work close home to the pupil, and to make it not only interesting, but of lasting benefit. The article by Professor Cockrell of New Mexico, is also a thoroughly practical one, and we hope that many of our readers will take advantage of the suggestions offered by the writer. We have in store, other articles just as suggestive by Superintendent Shannon, Professor Jones of Harvard University, and others.

* * *

Another. Vol. I, No. 1, of the *Arkansas School Journal* made its appearance in November, declaring its devotion to the educational interests of that state. Its sixteen pages appear clean and neat, and show good taste, both in editing and in printing.

* * *

School Legislation in Indiana. Among Indiana educators the feeling is very general that the time has come for a push forward in education. Those who know anything about school systems have long recognized many defects in the Indiana system. These defects are so serious as to preclude any possibility of large progress in education. Any further delay in providing a remedy may shortly affect our standing in the educational world. It is true that we have long boasted of our privileges, and dwelt upon our admirable system; and our privileges have been many and our system has really accomplished great things. That there are better systems than ours in force in this country does not admit of debate. It is true that some laws have been placed upon our statutes looking toward the unification of school-work; but if we are to stop here, this very unification may result in making a machine of the system, and in the destruction of diversity, which is, after all, the standard of progress. Uniform examinations and uniform text-books may avail nothing. It is a fact that no educational officer in Indiana, from the governor to the school director must have an *educational* qualification. It is also

a fact that there is no *professional* qualification for teachers. It is a fact that if one has completed the work in the best university in the world and added to it the best professional training to be obtained he must have *tought forty eight months, sixteen of which shall have been in Indiana*, before he is even permitted to take the examination for a State License. It is a fact that the most important school officers in the state, the trustees, have assigned to them duties so diverse that the dignity of schools suffers and their worth is impaired. These things merely hint the place where legislation should begin. The end to be kept in view is that the schools are to be placed upon a distinctly professional plane.

* * *

Classification of Institutions and Maintenance.

One of the first things to be done is to take the schools out of the class of penal institutions and insane asylums and place all public schools upon the same plane. There is no reason why any school in the state should be compelled to go to the legislature every two years and beg for its maintenance. One of our fundamental principles is that we will educate every child in our borders. Then, ample provision should be made for every school in the state in the same way. Two years ago a great stride was made in the right direction when the General Assembly enacted a law for the support of the state schools at Bloomington, LaFayette and Terre Haute by direct tax. Now let the coming Assembly complete this work by placing the institutions for the education of the deaf and blind upon the same footing.

* * *

Township High Schools. Another serious defect in our system, is the fact that children in the country and in towns, do not have equal opportunities for obtaining an education. This discrimination in the provision of school facilities causes a break in our work. Boys and girls who complete the work of the eight grades in the township schools, find themselves compelled to go to some town and pay tuition to attend a high school. Superintendent Geeting, who has been much interested in this phase of the work, will make a recommendation to the next General Assembly, that a law be enacted, making it the duty of the township trustees, and the trustees of town and city schools, to furnish high school accommodations, *free*, to all graduates from the common school branches. This is a move in the direction of the establishment of high schools in every township in the state.

Qualifications of County and City Superintendents

Perhaps it is not generally known that so far as our system is concerned, there is absolutely no requirement, either *professional* or *educational* for county and city superintendents. This makes it possible for the best school positions in the state to be filled by men in nowise fitted for them. As a matter of fact, the majority of these places are filled by excellent men, and it is due to them and to all school men who are striving for better things, that the state place some qualifications upon the office which dignify it, and take it once for all out of petty politics. Better supervision is one of the crying needs of our time. And how shall the blind lead the blind? The *one question* that trustees should ask in selecting a superintendent is "What man is best qualified for the place?" And if we can not have this question prevail short of legislation, let us have the fiat of the state, and let us have it shortly. Our salvation depends upon better teaching. Better teaching depends largely upon better supervision.

* * *

Compulsory Education Law

When we have done everything that we can to make the school an institution that will meet all the needs of the child; when we have made the school an institution that exists for the child; when we have placed in it as teachers men and women who are students of child-life, and interested in the child's welfare; when we have made teaching a profession, and thrown down all barriers to its progress; when we have exhausted the resources of the "come-way," if there remain children without the fold, let us compel them to come in. We are in favor of a compulsory education law, in connection with the best school-grounds, the best school-houses, the best school-books, the best school-courses, the best teachers, the best officers that the world affords.

* * *

Town and City Superintendents' Meeting.

One of the most helpful of the various educational organizations at work in the state, is that of the town and city superintendents. This body held a meeting on the 12th, 13th and 14th of November, at the Denison, Indianapolis. The sessions were well attended, interesting topics were presented, and very much good may be expected to result. This organization through a committee of leading superintendents, prepared, last year, a course of study for graded schools. A great deal of time was spent upon the preparation of the course, and all the details in connection with it were worked out in the most careful manner by the

committee. That committee was composed of Superintendents Ogg of Greencastle, Burris of Bluffton, Sims of Goshen, Belman of Hammond, and Snyder of Muncie. This report received a great deal of attention at the full meeting of the association a year ago, and it was decided at that time that it would be simply recommended to the various superintendents for trial, the discussion of it to be resumed at the meeting which has just been held. At this recent meeting, it was determined still to go on experimenting and testing the course, instead of adopting it and endeavoring to bring it into general use in the schools. A committee consisting of forty members, subdivided into smaller committees, was appointed for the purpose of taking up and studying in detail, the common school subjects outlined in this course of study. The reports of each subcommittee, on the separate branches, are then to be studied by another committee, which is to unify them. The reports of these committees are to be presented at the next annual session. The result of this work will undoubtedly be a more nearly uniform and a much enriched course of study. Since the reports will likely be printed, the work of the association will be accessible to all teachers.

The superintendents were very fortunate this year in having with them, President Andrew S. Draper of the University of Illinois. President Draper addressed the meeting Friday afternoon, on City School Systems, and Friday evening, on the State License System of New York. These addresses were in the nature of informal talks, and each one was followed by a general discussion by the association. President Draper is always a very helpful man, and the superintendents found him peculiarly so in talking about the two great movements with which his educational work has been prominently connected; one, the city school system as it is exemplified at Cleveland, Ohio, and the other, the state license system as exemplified in New York. This last subject was of special interest, owing to the fact that a movement is on foot, in this state, to adopt the plan of having manuscripts for teachers' licenses examined under the supervision of the state department, instead of by county superintendents.

There are many advantages in this plan, and it is to be hoped that this great advance step may receive favorable action at the hands of the coming legislature. One of the main advantages in connection with it, is that a license to teach would then be a state license, and not limited to the county in which it is issued. It is quite a common thing for county superintendents to refuse to recognize, in any way, the licenses granted in

THE JOURNAL OF THE

The Journal of the American Medical Association is a weekly publication of the American Medical Association, published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. 60610. It is a peer-reviewed journal of the medical profession, covering a wide range of topics in medicine, surgery, and public health. The journal is published in English and is available in print and online formats. It is a leading source of information for medical professionals and the general public.

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schools, present a petition for the same to the school trustees; (2) when a majority of the trustees of a school authorize it.

This instruction is to be given during the last half hour of the school day, and representatives of any denomination may come in to instruct such children as the parents may be willing to have remain.

* * *

Venezuela Controversy.

A decisive step towards fixing the boundary line between Venezuela and British Guiana, was taken Nov. 9, at the British Embassy in Washington, when Oscar II., King of Norway and Sweden, was appointed by the treaty as the fifth arbitrator.

Of the other four, two are to be designated by the Chief Justice of the United States, and two by the Lord Chief Justice of England.

This final agreement to arbitrate, is a conclusion well becoming the dignity of the two great nations most interested. It is, moreover, a significant event when a disagreement that twenty-five years ago would have been a sure *casus belli*, with the final result on the side of the stronger, regardless of right, can be calmly referred to a competent board and settled in fairness.

The Monroe Doctrine, as involved in the Venezuela controversy, makes the conclusion doubly interesting to Americans. The doctrine has long stood as a declaration, and seems to have had the silent sanction of the world in general, yet it could not be regarded as an established principle without a test case. Whatever may be the future of the Monroe Doctrine, England's recognition of our right to protest against apparent aggression in Venezuela, adds great strength to the principle. It is true, as the *London Times* declares, that our right to interfere, involves responsibility, but it is no less true that our attitude in the Venezuela case must greatly strengthen our bond of union with the Spanish-American republics.

A marked feature of the controversy, was the unwarranted exhibition of spleen, by a large part of the American press. It must be admitted that the English papers showed much more dignity and reserve, and now that the dispute is at an end, it must appear that such tirades are neither good diplomacy nor conducive to the harmony and good will which both nations should desire.

The United States may congratulate herself upon gaining her point; she may congratulate both herself and England upon the maintenance of harmony; and she may congratulate the world at large upon its progress through arbitration towards a new golden age of peace.

Are We to Have a Formal Recognition of God in the Constitution?

In Pennsylvania, there has lately been a renewal of the effort to have our National Constitution so amended as to contain a formal recognition of Deity. Petitions by the mile have been sent to Congress, asking for action upon this subject. It would be difficult, indeed, to find citizens who would advocate a formal denial of national allegiance to the Supreme Ruler, but there are millions who think that the recognition sought by the movement would be wholly superfluous. These, too, are persons who would by no means dispense with the custom of opening congressional sessions with prayer, who believe in a sacred, as well as a moral obligation of the official oath, but who believe that forms like these sufficiently mark us as a God-fearing people. There is, moreover, an earnest appeal to Almighty God in our Declaration of Independence, a state document as important, in some senses as the Constitution itself.

The *New England Journal of Education* doubts "whether any verbal recognition of God in the Constitution would be so impressive an acknowledgment of national dependence upon the Divine goodness, as the annually-recurring invitation to seventy millions of people to praise God for his mercies."

* * *

Professor Charles Hoich.

Professor Charles Hoich of the Indiana State Normal School faculty died Saturday, November 28. Professor Hoich had just come to Indiana at the beginning of this school year as assistant professor of geography in the State Normal. He had been prepared for his work in the New York State Normal at Oswego, and in Cornell University. He came highly recommended, and has filled his new position with much credit to himself and the school. The students and faculty had scarcely learned to know Professor Hoich, but those who had come in contact with him found him a reserved, quiet man, thoroughly interested in his chosen work, which he performed conscientiously and well. His constitution, probably already undermined by the disease which proved fatal, could not withstand this climate. He bore his sufferings in silence. He was remembered in his sickness by his students and friends, and though in a strange country among strange people his last days were not devoid of cheerfulness. We extend sympathy to his relatives and friends in his New York home.

INDIANA STATE BOARD QUESTIONS FOR NOVEMBER, WITH DISCUSSIONS.

READING.

1. Explain the principle of *topical reading*, as it applies to the study of history.
2. Explain the essential differences in the method of reading fiction, and actual reading, as compared with *topical reading*.
3. What is the chief source of error from the language of the student in reading? Why?
4. What is meant by a process? Give what two phases of the process are indicated.
5. What is the chief subject has an educational value? Give the value. Discuss the educational value of the subject.
6. Give some of the country superintendents.

1. The word *word* is made up of the elements *word*, which are, perhaps, already familiar to the child, or he may see that the word contains the word *word*, which he already knows, and placing before this the *m* sound, he has the new word.

2. In primary reading, the emphasis is thrown more upon the form or language side, in advanced reading upon the thought side. The first problem in reading is to give the child a supply of symbols for the ideas in his mind. Later, he uses these symbols as means of enlarging his stock of ideas.

3. Yes. These pictures are methods of expressing meaning.

4. Reading as thought, or, silent reading, and reading as expression, or oral reading.

5. Reading underlies all learning. Besides its value as a means in other study reading strengthens the thinking powers of the pupil, and is of peculiar value in the training of the imagination. Through the illustrations of life and its struggles, his mental nature receives culture.

SCIENCE OF EDUCATION.

Any Five.

1. Define the term *science of Education*.
2. Is there a science of education in the sense in which there is a science of arithmetic or algebra? Give reasons.
3. Is there a science of education in the sense in which there is a science of medicine, agriculture, or bridge-building? Give reasons for your answer.
4. How are the principles which constitute the science of education discovered or worked out?
5. Would the most liberal mastery of an art, as medicine or education require that one should know thoroughly the principles of the art? Justify your answer.
6. Can a knowledge of the science of education take the place of a thorough knowledge of the subjects to be taught? Give reasons for your answer.

1. Science of Education is the classification of the principles underlying the development of a being. It is a knowledge of the laws by which the mind within takes hold of and assimilates the world without.

2. Yes, in the sense that there are eternal principles and facts in the world which are manifestations of these principles. To me the laws of education are just as clear, and the facts which show these laws are just as tangible as arithmetic and algebra. They are more so. The principles of education are embodied in living, growing human beings—they are life; the facts of algebra and arithmetic are mechanical and dead.

3. Yes, in the same sense as above. I suppose in the sense that the principles of education are not so settled as those of these other sciences it may be said that the science of education is not so exact as some others—in other words, perhaps not so much of the truth has been discovered in regard to it.

4. By the study of the child as the pupil, and nature as the teacher. This must be the basis of all theory and every true system.

5. Certainly. The art only carries out the principles. A performance not based upon knowledge of principles is not artistic. The artist has the end distinctly in view and does everything to accomplish that end.

6. No. With reference to any particular subject such a condition could not exist. The teaching of a subject implies a knowledge of the subject-matter, a knowledge of the mind that is to be taught, and a knowledge of the process of mind in making that which is objective, subjective.

HISTORY OF CIVILIZATION.

Any Five.

1. Describe the three sorts of written history, as given in the preface to Guizot's *History of Civilization*.
2. Give a sketch of the life of Guizot, and indicate what qualifications he had to the nature and preparation for writing history.
3. What are the essential ideas in the idea of civilization, by Guizot? Briefly explain each.
4. Explain what Guizot means by the inferior condition of man, and the inferior condition of man, and state his view as to the relation existing between the two.
5. What are the chief results of civilization?
6. State Guizot's view of the final position of civilization.
7. "It seems to me that the first idea comprised in the word civilization is the notion of progress or development."—Guizot. Explain the above and illustrate the idea from American history.

1. The "three sorts of written history" described by Guizot are:

(a.) That in which the bare facts, in the order of their occurrence, are stated.

(b.) That in which the facts are stated, and the immediate relations of cause and effect existing between these facts is shown.

(c.) That in which a knowledge of the facts is, in a large measure assumed, and the historian dwells upon the broad relations existing between the great movements of history.

The first is little more than annals; the second constitutes the bulk of written history; the last is what is generally included in the philosophy of history.

2. Guizot was born the year in which the Constitution of the United States was written, and died at the age of eighty-six in the year 1874. He was of the Protestant faith. He received early in life a fine education, especially in the languages. He then studied law. He early abandoned law for letters, and wrote essays and books upon literary and historic subjects. At the age of twenty-five he was chosen to a professorship of history in the Sorbonne one of the oldest universities in France. He held this position for several years. After the overthrow of Napoleon 1814 down to 1848 he was almost continuously in some public position in the service of France—sometimes as lecturer in the Sorbonne, but more frequently as member of the legislature or as member of the ministry. He was a prolific writer on government, and leant strongly toward liberal reforms in the interests of the people. The last twenty-three years of his life he spent in retirement on his country estate in quiet literary pursuits.

His qualifications for writing history were pre-eminently,—broad scholarship in historic questions, large practical experience in statesmanship, a hopeful view of the world's progress, and a very judicial habit of mind.

3. The essential ideas included in the idea of civilization are :

- (a.) Individual progress.
- (b.) Social progress.

By individual progress is meant the softening and betterment of the social, economic, mental and moral condition of the individual. That is, man has better food, clothing, shelter, truer and juster feelings and ideas from age to age—this constitutes and forwards his individual progress.

By social progress Guizot means the continual improvement in man's institutions—his government, schools, family, church and industrial life.

4. (a.) By the "interior condition of man" Guizot means the moral and intellectual state of man, his opinions, his sentiments.

(b.) By the "outward condition of man" he means the condition of man as reflected in his institutions.

His view is that the outer and inner condition of man, speaking in general, and for long periods of history very closely correspond.

5. The chief results of civilization are :

(a.) To elevate the life, habits, sentiments, opinions of the individual himself by—

(b.) Leading the individual to give his might toward building up a more perfect social, or institutional world about him.

6. Guizot's view of the final result of civilization is that of a perfect social order,—one in which each individual may participate freely in the life of all the institutions, and be hindered in none.

7. By this quotation is meant that society is ceaselessly changing from a given condition to a better one—one in which there is more of freedom, more humanity.

The entire history of America has been one which has been an enlargement of freedom—free schools, free labor, free religion, equal opportunity of all persons before the law. Our history has been one, too, of increasing humanity—humanity for the helpless classes, the criminal classes, the slave, the Indian, and even the dumb brute.

GRAMMAR.

1. Write a complex, declarative sentence. Explain its form and uses.
2. State the use of each word in the following:
Brisk youth appeared, the morn of youth;
With freaks of graceful folly,
Life's temperate noon, her sober eve,
Her night not melancholy.
3. Illustrate in sentences four uses of the adjective.
4. Illustrate the difference between the use of the comparative and superlative degrees of adjectives. Explain.
5. Use the expressions "not only," "but also," correctly.
6. How may pupils be stimulated to improve their power of expression?

1. The tree which has withstood many storms is now blown down. It expresses one principal thought and one subordinate thought. It is addressed to the mind for the purpose of conveying information to it.

2. "Brisk" is an adjective modifier of the word, "youth," which is a noun subject of the verb, "appeared." "Appeared" is a verb, principal part of the predicate. The word, "the," is an adjective modifier of the word, "morn." The word, "morn" is an appositive modifier of the word, "youth." The word, "of," is a preposition, showing the relation between the ideas, *morn* and *youth*. The word, "youth," is a noun, principal part of the prepositional

phrase. The word, "with," is a preposition, showing the relation between the ideas, *appeared* and *freaks*. The word, "freaks," is the principal word of the prepositional phrase. The word, "of," is a preposition, showing the relation between the ideas, *freaks* and *folly*. The word, "graceful," is an adjective modifier of the word, "folly," which is the principal word of the prepositional phrase. The meaning of the sentence, taken out of its context, is not very clear. It is, therefore, a poor sentence to use in this way. If it means, "Life's temperate noon appeared, her sober eve appeared, Her night not melancholy appeared," the uses of the remaining words are easily seen.

3. To modify a noun ; e. g., The *honest* boy won the prize.

To modify a pronoun ; e. g., I *alone* am left to tell the story.

To predicate of the sentence ; e. g., The child was *lost*.

As objective predicate adjective ; e. g., They made the stick *straight*.

4. The comparative degree denotes that the attribute expressed by the adjective has been compared with the same attribute in one other idea ; e. g., He is *taller* than his brother.

The superlative degree denotes that the attribute expressed by the adjective has been compared with the same attribute in two or more ideas ; e. g., He is the *tallest* boy in the room.

5. He was not only an eminent statesman but he was also a noted financier.

6. There are many ways in which pupils may be stimulated to improve their power of expression :

(1.) Develop an English sentiment among pupils. Get each child interested in his own case. Get him to watching his own language and trying to improve his own English.

(2.) Correct all oral and written errors in such a way as not to give offense to those who make the mistakes.

(3.) Let the teacher use good English in the presence of the children.

(4.) Put the gems of standard literature before them and call especial attention to the beauties of the language.

(5.) Careful composition work, etc., etc.

GEOGRAPHY.

(Select Five.)

1. How do you account for the fact that Mexico, situated in tropical latitudes, produces almost all varieties of fruits and grains?
2. Utah Lake and Great Salt Lake are fed from the same sources. One is fresh, the other salt. Why?
3. What is the Nicaragua Canal? Why should it be controlled by the United States?
4. Where and what is Armenia? Why is the attention of the world called to it at the present time?
5. What effect did the geographical conditions which surrounded the British colonies in North America have upon their development and consequent supremacy on the continent?
6. What geographical reason can you assign for the fact that the first settlements in the Mississippi Valley were slaveholding in character?

1. Mexico has a wide range of climate because it has a wide range of altitude.

2. Utah Lake has an outlet. Great Salt Lake has not.

3. The Nicaragua canal, now partially constructed, is a ship canal across Central America

by way of the San Juan river and Lake Nicaragua. It would form an important trade route between the Atlantic and Pacific coasts of the United States, and in time of war would furnish easy access to both coasts by the power in control of it.

4. Armenia is a province of Asiatic Turkey near the east end of the Black Sea. On account of the massacres of Armenians by other Turkish subjects,

5. A latitude and climate not very unlike those at home furnished congenial conditions. Their distance from Great Britain was great enough to prevent too minute and vigorous control by the mother-country, while it was not too great for profitable intercourse. The long strip of land between the Atlantic and the Appalachians faced the sea, and the Old World with numerous good harbors, afforded a sufficient variety of soil and products, and sufficient room for the prosecution of varied industries and enterprises; while the wall of the Appalachians afforded some protection from the Indians and prevented too great diffusion of the colonists.

6. The first settlers in the Mississippi Valley were from the slave-holding states of Virginia and North Carolina. Kentucky and Tennessee were nearer to those seaboard settlements than Ohio to New England.

SCIENTIFIC TEMPERANCE.

Select Five.

1. Is alcohol of any value as a medicine? If so what is it? Is there anything that might be substituted for it? If so what is it?
2. Is alcohol a food? Why?
3. Does alcohol increase or relieve thirst? Why?
4. Why does the excessive use of alcohol cause the heart to degenerate into fatty tissue?
5. Why are the beer drinkers in danger of bleeding to death from a slight wound?
6. What can be said of pure nicotine as a poison as compared to other poisons?
7. Why does the use of tobacco produce thirst?

1. Dr. N. S. Davis of Chicago, one of the best authorities in this country, said in 1887, on the point involved in the first part of this question: "I have been constantly engaged in the practice of medicine a little more than fifty years, embracing both private and public hospital practice, and have demonstrated by the last forty years of actual experience that no form of alcoholic drink, either fermented or distilled, is necessary or desirable for internal use, in either health or in any of the varied forms of disease; but that health can be better preserved, and disease be more successfully treated without any such drinks." On the second point Dr. Davis says: "Alcohol acts upon the human system as an anæsthetic (producer of loss of sensation), organic sedative (a depressor of vital force) and an anti-pyretic (allayer of fever)." On the last two points Dr. Davis makes the following statements: "As an anæsthetic all will agree that it is far more inferior to, and less manageable than ether, chloroform, nitrous oxide, and ordinary narcotics. As an organic sedative and anti-pyretic it is so much less prompt and efficient in its action than either water applied externally, or the internal use of quinine, salicylic acid, digitalis, and a score of other articles, that no well-informed practitioner would think of selecting it for these purposes."

2. Dr. Benjamin Ward Richardson, the great English authority, who just died the middle of November, says on this question: "Alcohol con-

tains no nitrogen, it has none of the qualities of these structure-building foods; it is incapable of being transformed into any of them; it is therefore not a food in the sense of its being a constructive agent in the building up of the body. It probably does not produce fatty matter, except by an indirect and injurious interference with the natural processes."

3. Alcohol increases thirst. Because it has a great affinity for the water in the system.

4. Dr. Davis says in regard to this question: "The fatty degenerations of the liver, heart, kidneys, etc. etc., are the result of the slow, long-continued, moderate influence of alcohol in retarding the oxidation of the carbonaceous matters of the system, and allowing it to accumulate in the form of inert fat." Dr. Dickinson in explaining the same point says that these fatty changes are caused by the "replacement by oil of the material of the epithelial cells and muscular fibers."

5. Because the blood of beer drinkers is so diluted, and the fibrine is so deteriorated, that the power of coagulation is almost destroyed.

6. As to this question, Dr. Newell of Boston, says: "Nicotine is one of the most deadly poisons; its fatal results being produced in less time than any other poison except prussic acid."

7. One evident reason is the continuous waste of saliva.

PHYSIOLOGY.

Any Six.

1. What is the general scope of Physiology?
2. Describe the structure of a bone.
3. How may we preserve and increase the strength of a muscle?
4. What is the chemical action of the saliva upon food?
5. What are the chief constituents of food materials?
6. How would you ventilate a school room, at the same time preventing injurious draughts of air?
7. Draw a diagram to illustrate the circulation of the blood.
8. What part of the brain is the seat of voluntary action?

1. While the true scope of physiology is limited to the determination of the uses of physiological structures, it generally includes the anatomy as well of all these structures.

2. Taking the femur as a typical bone, it consists of a hard, bony portion enclosing a hollow cavity—the medullary cavity. At the ends of the medullary cavity the bone is spongy in structure. The medullary cavity is filled with the yellow marrow, the spongy bone with the red marrow. The compact bone is permeated by a system of Haversian canals. Lacunæ and the canaliculi radiating from them finally form an intricate system of cavities and canals throughout the entire bone. The lacunæ are arranged in circular rows around the Haversian canals, varying usually from three to seven rows around each canal. The bone between consecutive rows of lacunæ is called a *lamella*.

3. The chemical action of saliva on food consists in changing more or less of insoluble *starch* into soluble *grape sugar*.

4. The chief constituents of food materials are (1) albumens, (2) gelatine, (3) starches and sugars (carbohydrates), (4) fats and oils (hydrocarbons.) Those of an inorganic nature are water and salts of lime, sodium and iron, etc.

5. A good way to ventilate most school-rooms is to lower the windows in one or two places in the

room from the top a few inches or more, according to the temperature. If there be a good ventilation under the school-room floor, a hole through the floor immediately under the stove, is recommended by many as a source of fresh air. When this is not practicable, a window may be provided with a board in such a manner as to direct the incoming stream to the top of the room, and so avoid reaching the pupils directly.

8. That portion of the cortex of the brain which bounds the fissure of Rolando is the seat of voluntary actions.

HISTORY.

1. In a course of study for the public schools, which would you teach first, General or U. S. History? Why?
2. What was the question involved in the Lincoln-Douglas debates of 1858? State exactly the position of each of the debaters on that question?
3. What caused the panic of 1837?
4. What caused the panic of 1873?
5. What were the chief legislative measures passed during the administration of Hayes?

1. In a course of history for the public schools, general history should be taught first, for the following reasons:

- (a.) The early history of the race is less complex than the later, and hence is easier understood by children.
 - (b.) The order in which history has developed, furnishes the logical order for studying it. By studying general history first, the student is able to see age link into age, generation grow out of generation, and thus he catches the idea of historical development, and the cause and effect of historical changes.
 - (c.) It lengthens, and strengthens, and deepens the historic view, and thus enables the student to more correctly judge the present.
 - (d.) It is the best method of impressing upon the student that all history is, in a large measure, the ordinary unfolding of a great moral plan, which plan it is his duty to advance.
2. The chief question involved in the Lincoln-Douglas debate of 1858, was: Shall the general government or the local government decide whether slavery shall be introduced into the public territory of the United States?
- (a.) Lincoln maintained that the general government should decide it.
 - (b.) Douglass, that the local government should decide it.
3. Some of the chief causes of the panic of 1837, were:
- (a.) The refusal of Congress to recharter the United States Bank after 1836.
 - (b.) The very rapid increase of state banks which resulted from "a."
 - (c.) The immense issue of state bank paper currency in the years '33, '34, '35, '36.
 - (d.) Great speculation in the country with this paper currency.
 - (e.) The refusal of the general government to receive this paper money for public lands after 1836.
 - (f.) The consequent general demand for specie money, and the inability of the banks to redeem their paper money.
4. The chief cause of the panic of 1873, was

over-speculation, which followed from the years of the war up to 1873.

5. (a.) Legislation for improving the mouth of the Mississippi River.
- (b.) Legislation remonetizing silver; that is, ordering that the silver dollar should be coined again, and used to pay debts.
- (c.) Legislation for paying by the government, in gold or silver, any of its notes which were brought to it for payment.

ARITHMETIC.

1. In the beginning of primary number work we use objects of uniform size, shape and color, etc. Why?
2. In the study of numbers, each number is considered: (a) As a whole. (b) As to the relations in it. (c) In its application. —State Course of Study.
Illustrate the above by using the number three.
3. Define arithmetic as a science; as an art.
A man paid \$110 for a horse, and sold it at a profit of 20 per cent.; required the gain. *Analyze.*
4. If a merchant pays 15 cents per yard for muslin, for how much does he sell it to lose 25 per cent. *Analyze.*
5. How many terms are considered in thinking a ratio? Name them. Name two underlying principles of ratio.
6. If 300 pounds of wool at 28 cents per pound, are exchanged for 36 yards of cloth $1\frac{1}{2}$ yards wide, how many pounds of wool at 35 cents per pound should be given for 20 yards of cloth $\frac{3}{4}$ yard wide? *Solve by proportion.*
7. Explain as to a pupil ready for such explanation, the cost of papering a room 12 feet long, 10 feet wide and 9 feet high—walls and ceiling—at 12 cents per square yard.
8. In the above problem, what knowledge would you consider necessary on the part of a pupil? How would you undertake to ascertain that knowledge. State the test.

1. In beginning primary number work we use objects of uniform size, shape, and color, etc., because objects not having these would divert the mind of the child from the number idea to the attributes of color, size, and shape, etc. It is best to have the objects so that there is no possible way to distinguish them except as to number; if he can he may say, when shown one object and then two, "This is red and these are white," instead of "This is one and here are two." The mind of the child deals with the thing most vividly before him and if size and shape happen to be peculiar he takes them instead of the number attributes.

2. The number three is taught: a. As a whole by showing groups of objects of three each and having the pupil understand that so many objects are designated as three objects. These objects should at first, at least, be of the kind mentioned above so that the child will not think that red, white, large, small, round, square, or anything of that kind has to do with making the objects three in number. b. As to the relations in it by showing that one, one, and one are three; or that one and two are three; or that two and one are three; etc. c. In its applications by having the pupil know 3 ft.=1 yd., 3 ft.=1 pace, 3 in.=1 palm, etc. (This number's applications are few.)

3. Arithmetic as a science, deals with the underlying principles of number relations; as an art, it deals with the application of these principles to the various combinations of number relations.

4. We understand that this problem is to be solved by analysis and not by the principles of percentage. a. If a man buy a horse for \$110.00, 100% of the cost=\$110.00; 20% of the cost= $\frac{20}{100}$ of \$110 or \$22. Since he gained 20%, he gained \$22.00. \therefore \$22.00 is the gain. b. If a man pay

15 cents a yard for muslin, 100% of the cost per yard = 15 cents, then 25% of the cost = $\frac{25}{100} \times 15 = 3\frac{3}{4}$ cents. Since he sold it to lose 25%, he lost $3\frac{3}{4}$ cents on each yard; then 15 cents - $3\frac{3}{4}$ cents = 11 $\frac{1}{4}$ cents selling price. \therefore he sold the muslin for 11 $\frac{1}{4}$ cents per yard.

5. Two terms are considered in thinking a ratio: the first is the antecedent and the second is the consequent. Some authors say there are three: the first being the antecedent or dividend, the second being the consequent or divisor, and the third being the ratio or quotient, but we doubt if this last term is more than a reduction; e. g., $\frac{3}{2} = 1\frac{1}{2}$, i. e., $\frac{3}{2} = 1\frac{1}{2}$; in this we have the same relation expressed by both, then $\frac{1}{2}$ is only a reduction of $\frac{3}{2}$.

The most important principle is, Ratios exist between like numbers only.

Then there are about six others. In a ratio,

1. Multiplying the antecedent multiplies the ratio.
2. Multiplying the consequent divides the ratio.
3. Dividing the antecedent divides the ratio.
4. Dividing the consequent multiplies the ratio.
5. Multiplying the antecedent and consequent by the same number does not change the ratio.
6. Dividing the antecedent and consequent by the same number does not change the ratio.

$$6. \quad 300 : 12 :: \begin{cases} 35 : 28 \\ 36 : 20 \\ 14 : 1 \end{cases}$$

\therefore 75 lbs of wool should be given.

7. The distance around the room is 44 ft.; its height is 9 feet. Then to paper the walls would require as much paper as to paper one wall 44 ft. long and 9 feet high; this would take 396 sq. ft. (44x9). To paper the ceiling would require 120 sq. ft. (10x12), for the ceiling is as long as the room, or 12 ft., and as wide as the room, or 10 ft.; 396 sq. ft. - 120 sq. ft. = 516 sq. ft.; amount required to paper both walls and ceiling. 516 divided by 9 gives the number of square yards, or 57 $\frac{2}{3}$ sq. yds. This, at 12 cents a sq. yd., would cost \$6.88 (12x 57 $\frac{2}{3}$).

8. The pupil should know how to find the area of a rectangle, as the walls are rectangles; he should understand compound numbers, in that sq. ft. are reduced to sq. yds. and cents are reduced to dollars.

He should understand the four processes of arithmetic, including the multiplication of a whole number by a mixed number.

If it is a pupil the teacher has had for some time he will know whether he has this knowledge; if the teacher does not know the pupil he can give him some short problems involving the above points.

EDUCATIONAL INFORMATION.

President A. H. Yoder of Vincennes University, has organized a pedagogical department in his school, and is issuing a neat little bulletin giving information in regard to this department. Presi-

dent Yoder has had the advantages of training in Clark University under G. Stanley Hall, and is much interested in child-study work.

Mid-winter meetings were held during the Thanksgiving holidays in about half the counties of the state. In a great many of these counties, careful preparation was made, and elaborate programs arranged. These meetings are proving very helpful, indeed, to the teachers over the state. There is a great deal to be said in their favor. They come at a time of the year when the teachers are thoroughly interested in their work, and being in such close touch with the school, these meetings furnish large help and inspiration.

Purdue University is doing something in the way of university extension work. The president has just sent out a statement indicating the members of the faculty that will offer courses of lectures before high schools. In the list we notice Mrs. Emma Mont McKae's name, with the following subjects: "The Land of Evangeline," the "Needs of the Twentieth Century Girl," "When Shakespeare was a Boy," "A Day in Paris," and "A Night in Venice." Professor Thos. F. Moran offers lectures on "The Practical Value of History," "The Practical Value of Political Economy," "American History as Portrayed by American Poetry," "The New Education." Professor Severance Burrage offers the following: "Sanitary Rules of Schools," "Bacteria, and How We Study Them," "Pollution and Purification of Water Supplies," "Louis Pasteur," and "Prevention of Tuberculosis." Write to President Smart.

In the *Educational Review*, for November, appears an article from Professor Wm. M. Davis, of Harvard, which deserves wide dissemination and attention. It advocates "a plan to provide scholarships on which teachers in normal, high and grammar schools could study in such summer courses as they and their superintendents thought advisable. Professor Davis says: "While the previous studies of a high school or normal school graduate, may warrant her being given the position of 'teacher' in our public schools; all that can, as a rule, be safely claimed at the beginning of her career is: 'She seems to be of the right material: she may become a good teacher in time.' The essential steps toward her success are continued study of subjects, as well as extended practice and experience in her art. It is too much to expect attendance at a summer school from most teachers, while their salaries are so low." The Woman's Educational Association, of Boston, has become interested in the subject, and has issued a circular from which the following extracts are taken:

"The great increase in the number of summer schools during the last few years, shows clearly that these schools, in spite of the many objections which have been made to them, do, in reality, meet a need in the life and work of the teachers of to-day. It is undoubtedly true that a teacher in normal physical condition, can profitably spend a few weeks in looking at a subject from a pupil's point of view. A person who has been teaching for a number of years, needs to take a different standpoint, and to find that there are two sides of a question. Furthermore, the methods of teaching and the apparatus available, are constantly changing. It is a great inspiration to be a learner again, in common with persons of different experiences. For a teacher in a small town, it is even more valuable than for one in a city, to go to a large educational center and see what is being done in the various lines of study.

In the summer schools which have been established by many of our universities and colleges, instruction is given by some of the ablest and most progressive teachers of the country, and the opportunities for laboratory and field work are excellent. It is believed that enthusiastic teachers may gain great inspiration for their severe work, by placing themselves for a few weeks under the guidance of these men and women, who are leaders in their own departments.

The Woman's Educational Association of Boston, has established this year, several scholarships for work in the summer schools. * * * The Association urges women's clubs, and other organizations of women interested in public school work, to establish similar scholarships, or to select at least, one of their young teachers who shall be sent to one of the best of these college schools."

The small appropriation from the Association was increased by special subscriptions to nearly \$400. The plan gained the favorable opinion of members of the Boston School Board, of the superintendents, and of the various supervisors. These officers, aided by the masters of the schools, nominated to the committee a list of teachers as candidates for the scholarships. The candidates named were visited by two members of the committee, and choice was thus made of ten beneficiaries, 'who could profit most from the opportunity.' A small allotment of state funds would aid teachers in normal schools to keep in touch with educational progress elsewhere; and this would be nothing less than economy to the state. In time, funds to provide summer scholarships for teachers may become standard objects of public benefaction. Indianapolis already possesses a fund of \$22,000, the bequest of Thomas D. Gregg, the income of which is devoted to scholarships for teachers in the city schools. Since 1894, six beneficiaries of the fund have attended summer schools, two have spent a year at a college or university in this country, and two have enjoyed a year of study in Europe.

"Both temporary subscriptions for special scholarships and the formal establishment of scholarship funds are to my mind important supplements to our educational system, and the first supplement is very likely to lead to the second. For this reason, I urge both, but especially the first, upon the attention of school superintendents and local organizations, that may be more or less interested in educational progress. Once admit that a newly enrolled teacher has yet much to learn about her subjects of teaching, as well as much to gain from experience in her art, and it follows that system-

atic provision of opportunities for study on the part of teachers is an important element in the public-school system. The special exercises for teachers, conducted by a master, and the establishment of teachers' institutes, show that this element is already recognized. These exercises should not be diminished, for they accomplish a certain amount of good, but they are not the equivalent of systematic study in a good summer school. They are too brief, too interrupted to add much to the teacher's knowledge of her subject. They serve rather to give encouraging suggestions, than to build up thorough understanding. But a summer course, in which four, five, or six weeks of work are given to one, or at most, to two, subjects, will supply an effective addition to a teacher's equipment, and the general establishment of teachers' scholarships will make good summer schools more accessible than they are to-day. If the best of the younger teachers are selected to be scholarship holders, and if they continue their summer work through several seasons, it is fair to expect that they will show marked advance in their profession."

The new spirit and life which one or more teachers from every town in the state would carry back from the summer school at the Indiana University, or the State Normal, would do much toward breaking up the hard conservatism and old-fashioned habits into which too many schools have fallen.

THE FORTY-THIRD ANNUAL MEETING OF THE INDIANA STATE TEACHERS' ASSO- CIATION HELD IN INDIANAPOLIS, INDIANA, DECEMBER 29, 30, AND 31, 1896.

PROGRAM.

General Association.

AUDITORIUM OF PLYMOUTH CHURCH.

TUESDAY, DECEMBER 29, 1896.

EVENING SESSION, 7:30 O'CLOCK.

1. Music.
2. Devotional Exercises, Rev. T. I. Coultas, pastor Park M. E. Church, Indianapolis.
3. Address of Retiring President, Howard Sandison, Vice-President Indiana State Normal School.
4. Inaugural Address, President Jas. F. Scull, Superintendent Rochester Schools.
5. Music.
6. "Closer Supervision of County Schools," Mrs. Sarah T. Campbell, Assistant Superintendent Anderson Schools.
7. Appointment of Committees.
8. Miscellaneous Business.

WEDNESDAY, DECEMBER 30, 1896.

MORNING SESSION, 9:00 O'CLOCK.

1. Music.
2. Devotional Exercises, Rev. M. L. Haines, pastor First Presbyterian Church, Indianapolis.
3. Symposium—Subject: "Child-Study."
First Paper—"The Curve of Educational Advancement of School Children," Superintendent Noble Harter, Brookville.
Second Paper—"Effects of Physiological Changes on Children's Abilities," John M. Culver, Indianapolis Manual Training High School.

Third Paper—"Encouragements Found in Child-Study," Mrs. A. R. Hornbrook, Evansville.

Fourth Paper—"How can Child-Study be Made Most Useful to the Public School Teacher," Dr. W. L. Bryan, Vice-President Indiana State University.

General Discussion.

4. Refresh.
 5. Music.
 6. "Nature study in Elementary Schools," Superintendent W. P. Shannon, Greensburg.
- Discussion opened by Superintendent R. Ellsworth Call, Lawrenceburg.

EVENING SESSION, 7:30 O'CLOCK.

1. Music.
2. Annual Address.
3. Reception given by the Denison Hotel to the Members of the Association.

THURSDAY, DECEMBER 31, 1906.

MORNING SESSION, 9:00 O'CLOCK.

1. Music.
 2. Devotional Exercises, Rev. G. A. Carstensen, Rector of Paul's Episcopal Church, Indianapolis.
 3. "The Teacher's Personal Influence as a Factor in Education," Miss Mary Joanne, Purdue University, Lafayette.
- Discussion opened by R. A. Ogg, Superintendent Greencastle schools.
4. "The Teacher's Preparation," Miss Marie Dunlap, Lebanon High School.
- Discussion by J. H. Scholl, Superintendent Milton schools.
5. Refresh.
 6. Music.
 7. "The New Geography," by Chas. R. Dryer, State Normal, Terre Haute.
 8. Reports of Committees.
 9. Miscellaneous Business.
 10. Adjournment.

All papers, excepting those constituting the symposium, will be limited strictly to thirty minutes; those who open the discussions will be granted ten minutes each, while those who take part in general discussions, will consume not more than five minutes each.

The papers in the symposium will be allowed twenty minutes each.

The music numbers on the general program are provided by Mr. W. E. M. Browne, Chairman of the Executive Committee of the Music Section.

J. F. SULL.

W. A. HESTER.

President. Chairman Executive Committee.

High School Section.

Plymouth Church Auditorium.

WEDNESDAY, DECEMBER 30, 1906, 1:30 P. M.

- I. Papers.
 1. "Matter and Method in the Teaching of Physics," Wilbur A. Fisk, Richmond High School.

Discussion opened by Oscar R. Baker, Superintendent Winchester Public Schools.

 2. "Language Study as an Auxiliary to English Literature," Miss Kittle Palmer, Franklin High School.
- II. Symposium.
 1. "Discipline in the High School," Russell Bedgood, Principal of Lafayette High School.
 2. "Psychology in the High School," J. W. Hamilton, Superintendent Monticello schools.
 3. "How to Make the High School Popular," C. M. Hamilton, Madison.

4. "Relation of History to Civil Government in the High School," C. T. Lane, Principal Ft. Wayne High School.

5. Miscellaneous Business.

OFFICERS OF THE SECTION.

President—Miss Martha Ridpath, Greencastle.

Vice-President—B. B. Berry, Fowler.

Secretary—Miss Annette Ferris, Thornstown.

Executive Committee—D. R. Ellsberger, Richmond; E. B. Bryan, Indianapolis; S. W. Baer, Nappanee; Miss Anna G. Scott, Monticello; Miss Mary B. Cox, Huntington.

English Section.

Plymouth Church Auditorium.

THURSDAY, DECEMBER 31, 1906, 1:30 P. M.

1. "The Twofold purpose in Teaching English," Miss Adelaide Baylor, Principal of the Wabash High School.
- Discussion opened by Professor Elmer E. Griffith, of Indiana University.
2. "A Plea for Uniformity in the Criticism of Compositions," Mrs. Anneline P. Carey, Teacher of English in the Indianapolis High School.
- Discussion opened by Professor Sanford Bell, of the Valparaiso Normal School.
3. "The Teaching of Literature, Once More," Professor W. N. Trueblood, of Earlham College.
- Discussion opened by Miss Flora Bridges, Professor of English Literature in Butler College.
4. Reports of Committees and Election of Officers.

OFFICERS OF THE SECTION.

President—Professor G. W. Hufford, Indianapolis.

Vice-President—Professor A. B. Milford, Wabash.

Secretary—Miss Clara Mering, Richmond.

These officers constitute the Executive Committee.

Mathematical Section.

Room 122, State House.

WEDNESDAY, DECEMBER 30, 1906, 9:00 A. M.

1. "The Binomial Theorem and Convergence," Professor M. C. Stevens, Purdue University.
- General Discussion.
2. "The Teaching of Algebra in High Schools," Miss Kate Wentz, Industrial Training School, Indianapolis.
- General Discussion.
3. "Evolution in Arithmetic," Professor R. L. Sackett, Earlham College.

NOTE.—This paper will advocate the idea that arithmetical involution and evolution should follow algebraic involution and evolution, and be presented by the methods developed in the latter.

General Discussion.

4. Discussion of future plan for conducting the mathematical section.

All are invited to think the above subjects over with a view to joining in the discussions.

OFFICERS OF SECTION.

President—Professor Duane Studley, Wabash College.

Vice-President—Miss Adelaide Baylor, Wabash.

Secretary—Miss Amelia W. Platter, Indianapolis.

Executive Committee—W. P. Morgan, Terre Haute; F. H. Foster, Vincennes; —, —, Thresher, Butler College.

Music Section.

Room 120, State House.

WEDNESDAY, DECEMBER 30, 1906, 1:30 P. M.

To make this meeting as helpful as possible to those who

attend, all are requested to prepare some practical observations or suggestions on the following topics:

1. What is expected of the child in music upon entering high school?
 2. How interest the pupils who start in behind their class?
 3. Double rooms in graded schools; how taught?
 4. Mid-term promotions; how can supervisors overcome the consequent confusion?
 6. Music in the country schools; how can it be made more general?
 6. Reports from the field.
 7. Election of officers.
- Discussions should be written, that they may be filed for future reference.
- Two sessions of the Section will be held if the interest so demands.
- A piano is furnished for use during the meetings of the Section.

OFFICERS OF THE SECTION.

President—H. E. Owen, Terre Haute.
 Secretary—Miss Laura E. Jennings, Lawrenceburg.
 Vice-President—R. S. Moore, North Vernon.
 Executive Committee—W. E. M. Browne, Chairman, Knightstown; W. M. Alley, Shelbyville; Miss Blanche Williams, Columbus.

Indiana College Association.

(Denison Hotel Parlors.)

TUESDAY, DECEMBER 29, 1896.

MORNING SESSION, 11:00 O'CLOCK.

1. Reports, appointment of committees, and general business.
2. Paper, "The Bible as Literature in a College Course," Professor Elbert Russell, Earlham College.
 Discussion opened by President W. W. Parsons, Indiana State Normal.

AFTERNOON SESSION, 2:30 O'CLOCK.

Conference with High School and English Sections.

EVENING SESSION, 8:00 O'CLOCK.

1. President's Address—President Scot Butler, Butler College.
2. Paper—"Some Problems in College Government," President L. J. Aldrich, Union Christian College.
 Discussion opened by President Joseph Swain, Indiana University.

WEDNESDAY, DECEMBER 30, 1896.

MORNING SESSION, 9:00 O'CLOCK.

1. Paper—"The Place of Analytical Chemistry in a College Course," Professor W. B. Johnson, Franklin College.
 Discussion opened by Professor P. S. Baker, DePauw University.
2. Paper—"The Economic Side of History," Professor P. H. K. McComb, Hanover College.
 Discussion opened by Professor Melville M. Clapp, Hartsville College.
3. Paper—"Co-education: Its Possibilities and Dangers," Madam Pauline Mariotte Davies, Purdue University.
4. Reports of Committees, Election of Officers, Unfinished Business, Adjournment.

OFFICERS OF ASSOCIATION.

President—Scot Butler, Butler.
 Vice-President—L. J. Aldrich, Union Christian.
 Secretary—A. S. Hathaway, Terre Haute.
 Treasurer—W. E. Henry, Franklin.

Indiana Academy of Science.

(Agricultural and Horticultural Halls, Rooms 11 and 12, State House.)

TUESDAY, DECEMBER 29, 1896.

Meeting of Executive Committee, 8:00 P. M.

WEDNESDAY, DECEMBER 30, 1896.

General Session, 9:00 A. M.

Sectional Meetings, 2:00 P. M.

President's Address, 7:00 P. M.

THURSDAY, DECEMBER 31, 1896.

General Session, 9:00 A. M.

General Session, 2:00 P. M.

OFFICERS OF ACADEMY.

President—Stanley Coulter, Lafayette.
 Vice-President—Thomas Gray, Terre Haute.
 Secretary—John S. Wright, Indianapolis.
 Assistant Secretary—A. J. Bigney, Moore's Hill.
 Treasurer—W. P. Shannon, Greensburg.

County Superintendents' Association.

(Supreme Court Room, State House.)

TUESDAY, DECEMBER 29, 1896.

[MORNING SESSION, 9:00 O'CLOCK.]

✓ Paper—"An Original Poem"—W. W. Pfrimmer of Newton county.
 ✓ Paper—"Should We Have Closer Supervision for the Country Schools?" M. U. Johnson, of Madison county.
 Discussion led by J. A. Greenstreet of Henry county; W. B. Flick of Marion county; Orville Apple of Orange county.

AFTERNOON SESSION, 1:30 O'CLOCK.

Paper—"Should Township Trustees Furnish High School Privileges to the Graduates of the District Schools?" E. G. Machan, of Lagrange county.
 Discussion led by E. L. Hendricks of Johnson county; J. H. McGuire of Jennings county; C. F. McIntosh of Owen county.

WEDNESDAY, DECEMBER 30, 1896.

AFTERNOON SESSION, 1:30 O'CLOCK.

Paper—"How Can We Make the Meetings of the County Board of Education More Helpful?" Geo. C. Tyrrell, of Ripley county.
 Discussion led by C. M. Merica, of DeKalb county; W. E. Wineburg, of Wayne county; Frank E. Cooper, of Lake county.
 Miscellaneous Business.

OFFICERS OF THE ASSOCIATION.

President—Geo. R. Wilson of Dubois county.
 First Vice-President—L. A. Sailor of Warren county.
 Second Vice-President—G. N. Naber of Whitley county.
 Treasurer—M. U. Johnson of Madison county.
 Secretary—I. O. Harrison of Rush county.
 Assistant Secretary—J. D. Hostetter of Hendricks county.

Indiana Library Association.

The Library Association will hold a library institute December 29-31, 1896, in the assembly room of the Indianapolis Public Library. Miss E. Cornelia Marvin, of the department of library science of Armour Institute, Chicago, has been engaged to give a series of lectures on modern library methods, including ordering and accessioning, mechanical preparation of books, classification, cataloguing, charging systems, and reference work. There will be also practical discussions of local library problems. Mr. A. V. Babine, of the State University Library, will deliver an address on the problems and possibilities of a college library. It is hoped to have an entertaining lecture on some pertinent topic on one evening, and the usual social gathering will be enjoyed on the other

evening. All librarians, assistants, trustees, and school people interested, are urged to be present. The work of the new library section of the National Educational Association will be presented by Miss M. Ahern, secretary of the department. The importance of cooperative work between schools and libraries is everywhere attracting the deepest interest, and it is hoped that Indiana schools and libraries will be among the first to formulate successful plans for future work.

Mr. Rutherford B. Hayes, Library Commissioner of Ohio, and secretary of the American Library Association, will be present at this meeting. A pleasant and profitable meeting is assured to all who attend.

Association of Reading and Elocution.

Supreme Court Room, State House.

THURSDAY, DECEMBER 31, 1896.

MORNING SESSION, 10:00 O'CLOCK.

1. "Reading in the High School," Miss Bertha Frances Wolfe, Jeffersonville High School.
General Discussion.
2. "Gesture and its Limitations," T. J. McAvoy, Indianapolis School of Oratory.

AFTERNOON SESSION, 2:00 O'CLOCK.

1. "The Literary Phase of Reading," Miss Emma Z. Craig, Garfield School, Richmond.
General Discussion.
2. Readings from "Midsummer Night's Dream," Miss Elizabeth Johnston, Marion.
3. Miscellaneous Business.
President—A. R. Priest, Greencastle.
Vice-President—Mrs. M. V. Hamilton, Indianapolis.
Secretary and Treasurer—C. M. Geerish, Lafayette.

Classical Section.

Room 122, State House.

THURSDAY, DECEMBER 31, 1896, 9:00 A. M.

1. Report of Secretary and Treasurer.
2. Appointment of Committees.
3. Paper—"Latin as a Pure Science," Miss Cora Bennett, Marion High School.
Discussion opened by Demarchus C. Brown, Indianapolis University.
4. Paper—"Latin in Our Schools, From a High School Teacher's Stand-point," Miss Bettie G. Grimsley, Principal Lebanon High School.
Discussion led by R. H. Richards, Superintendent Spencer Schools.
5. Paper—"The Three Years' Course in Latin in Our High Schools," H. W. Johnston, Indiana State University.
Discussion led by H. M. Kingery, Wabash College.
6. General Discussion of Papers.
7. Reports of Committees.
8. Miscellaneous Business.
9. Adjournment.

OFFICERS OF THE SECTION.

President—A. J. Doty, Indianapolis.
Vice-President—H. A. Hoffman, Bloomington.
Secretary and Treasurer—Miss Cora Bennett, Marion.

Conference of Primary Teachers.

Plymouth Church, Lecture Room.)

WEDNESDAY, DECEMBER 30, 1896, 1:30 P. M.

One of the most interesting features of this week's meetings will be the conference of Primary Teachers of the State, to be held in the spacious upper room at Plymouth Church.

It will be under the direction of Mrs. Sarah Tarney-Camp-

bell, Assistant Superintendent of the Anderson schools. The mere reading of this meeting will not be sufficient. To catch the helpful spirit that will undoubtedly characterize its deliberations, teachers must be present.

Indiana Child-Study Association.

(Plymouth Church Lecture Room.)

THURSDAY, DECEMBER 31, 1896, 1:30 P. M.

It is proposed to organize at the time and place above noted a State Child-Study Association. The announcement of this movement will be received with enthusiastic approval by progressive teachers throughout the State.

Professor W. L. Bryan, of the State University, will act as chairman of the meeting, and direct in the organization of the new Association.

It is safe to say that an epoch in the history of education in Indiana will date from the organization of this Association.

BADGES.

If each delegate to the State Teachers' Association will wear a plain ribbon badge bearing the name of the city, town, or county in which he is teaching, it is believed that the social enjoyment of the meeting will thereby be greatly enhanced. It is earnestly desired that this simple and very appropriate method of self-introduction be universally observed.

A Good Wind Mill—Make it Yourself!

I have one of the People's wind mills which I saw recommended in your paper recently; it only cost me \$9.40, and is a splendid mill; my well is deep, but it pumps it all right and with very little wind. The neighbors all like it, and as I am a kind of a carpenter, I have agreed to put up nine mills already, on which I can make a nice profit, and there are many others for whom I can put up mills this fall. I don't see why every farmer should not have a wind mill, when they can make it themselves for less than \$10; anyone can get diagrams and complete directions for making the wind mill by sending 18 two-cent stamps to pay postage, etc., to Francis Casey, St. Louis, Mo., and there can be dozens of them put up in any locality by anyone that has the energy to do so.
A FARMER.

Superintendent U. G. Wheeler of West Springfield, Mass., in his January, '96 annual report, commenting upon the improved reading and spelling by the Pollard Synthetic Method, says: "There is no doubt in my mind, but that this method, properly taught, will produce better, and more independent readers than any other method."

In another column see advertisement of the Western Publishing House, Chicago, Illinois.

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THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

JANUARY, 1897

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THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

VOL. III.

JANUARY, 1897.

No. 6.

THE STUDY OF SHAKESPEARE.

DANIEL P. BALDWIN.

FULLY one-third of Shakespeare had a great deal better never have been written, and the first capital rule in his study is to know what to omit. Excellent hints in this direction may be found in the stage edition of his plays. Your actor knows by instinct and experience that there are pages upon pages of dreary puns and quips—of turgid rhetoric and incomprehensible metaphysics which will not bear repetition any more than the filthy paragraphs in which the coarseness of three centuries ago delighted. So there are a great many minor Shakespearean characters which are not worth trying to remember. And there are also plays like *Titus Andronicus*, which, if ever written by the great bard, had better never have been printed. The first requisite of a profitable study of Shakespeare, then, is to know what to omit. Don't be afraid to run your pencil through his unworthy paragraphs. While the student must needs read all, it is only with a view to profitable omission as a matter of study.

I recommend the study of Shakespeare in three divisions, each of which can be carried on at the same time,—comedy, history, and tragedy. Select the best and the most popular first. Begin with *Hamlet*, *Julius Caesar*, and the *Merchant of Venice*, and then, as these plays are successfully mastered, follow them by *Othello*, *Antony and Cleopatra*, and *As You Like It*—always keeping one play of each division upon the stocks until you read them all, reading the poorest and the

least read the last. The English historical plays must, however, be read successively to get the best results. After reading *King John* to get Shakespeare's historical style, begin with *Richard II.*, and follow it by the Lancastrian plays in their order, and afterwards the York dramas, closing the series, with *Henry VIII.* Prior to attacking these, read Abbott's history of *Richard II.*, of *Margaret of Anjou*, and the *Henrys*, so as to be advised beforehand who Shakespeare's historical characters were and what were the great events which he pictures. Failing to do this, a great deal of time and study may be thrown away unnecessarily. As a historian Shakespeare is controlled by English prejudices. His characterization of *Joan of Arc*, a horrible caricature, illustrates this. And his estimates of any event where England is concerned must always be taken with allowances.

First and last, the student of Shakespeare should aim to be his own critic. To do this he should commence early his studies in characterization. As I recommend that he begin with *Hamlet*, let him read carefully, and re-read critically, everything said by or about a given character—*Ophelia*, for example. Then make an estimate of her. She was a sweet girl without any will of her own; mere putty in the hands of others, and whose reason gave way when trouble came. As I recommend reading *Othello* next, make a similar study of *Desdemona*, and you will find that she was no such woman. She had

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the headstrong southern temperament, and left her father without hesitation to share the fortunes of her sooty lover. Ophelia, no doubt, had blue eyes and flaxen hair, and was a Danish blonde, while Desdemona had Italian black eyes, black hair, and milk-white teeth. Ophelia's insanity is a profitable study. Is it true that pure girls, when they become insane, talk the filth which Shakespeare puts in his heroine's mouth? I doubt it. Did Desdemona tell fibs? Compare her ideas of purity with those of Emilia, her companion. And this method of study should be applied to the remainder of Shakespeare's women, taking them up one by one until you finally collect a gallery of them. After you have made up your own mind and exhausted your efforts at criticism, then, and not before, take up the commentaries. Mrs. Jameson is the best upon his women; Coleridge, Dowden, Gervinus, Hudson and Snider may all be profitably consulted. Each will point out beauties and defects which have never occurred to you.

Of course the plots must be carefully studied. For this purpose I have got very great help from the three volumes of Mr. Snider of St. Louis, who has undertaken with great success to comment upon the four great bibles of literature—Shakespeare, Goethe's *Faust*, Dante, and Homer. Snider's suggestions as to the great primary principles of the state, the family, and the moral order, with their conflicts as developed by Shakespeare, are of very great value. In fact, I look upon Snider as an almost indispensable help in the study of the great poet.

The psychological study of Shakespeare's characters comes in late in the student's course, but is very interesting. Perhaps the best characters to which to apply this process are Iago and Othello, and of his females, Cleopatra and Lady Macbeth. In Othello we have the working of an honest, unsuspecting, rather dull intellect wrought upon by a consummate lustful scoundrel of dazzling mental ability. In Cleopatra we have a stately oriental queen, subtle as a serpent,

who, with a little more plying, would have betrayed the Antony whom she loved with all her soul, and for whom she so grandly died. In a magnificent tomb in Alexandria I was shown, three years ago, a female skeleton with an enormous head, lying in a magnificent stone coffin, said to be that of Cleopatra. Standing in the corners of the room were the mummies of three beautiful girls with delicate hands and feet, said to be Charmian, Iras, and Mardian. It was easy to believe—what, however, might have been a fraud, viz: that these were genuine relics.

In the lighter and brighter phases of human life—its comedies, where joy is the dominant element, Shakespeare is, as everywhere else, superb and supreme. The ideal comedies, *Midsummer Night's Dream* and *the Tempest*, where he deals with children of the air—Ariels, Pucks, Titianias, as well as earthly Oberons and Calibans—are quite as wonderful as those where his children of this earth "fleet it lightly as in the golden world." These fourteen comedies are in themselves a life's study and an endless delight.

Very great benefit can be got by making a specialty of the growth of Shakespeare's mind and art. He wrote almost exactly three centuries ago. His weakest plays came first; for example, the *Two Gentlemen of Verona*.—Wherein weak? Answer that for yourself, and to answer it correctly, study the characterization and plot of his juvenile work, and contrast it with the same qualities in one of his finished plays, written in the glory of his manhood, and which you have already—according to my schemes—read first. In this matter of the development of Shakespeare's mind and art during the score of years in which he wrote, there is a very great classic—Dowden—which everybody must study. But do your own thinking in this line before you read Dowden.

Early in your studies master Shakespeare's meters. This will be a very great help in ferreting out his meaning. Shakespeare often writes with a total disregard of all

grammar. The text is often very corrupt, and it takes a knowledge of his meters to locate a runaway noun or verb. Abbott's Grammar of Shakespeare is a valuable help to the student who wishes to acquire a critical knowledge of the great bard.

And now comes the best part of it all—the study and enjoyment of Shakespeare's thought and wisdom. In Shakespeare, common sense, healthy views of life, and sound morals always prevail. His heroes always stand square on their feet. He invariably eschews sentimentality and slush. In the end, right always prevails and villainy fails. While he is the most vulgar and unchaste of writers, chastity is always his dominant idea. In Shakespeare, as in no other author,

"The swart arms of offense
Forge the silver seat of innocence."

He is always sound upon the public order—the authority of the state, the integrity of the family, the moral man and the virtuous woman. There is very little religion in Shakespeare. One wonders whether he believed in it or not, or whether with him religion was simply to do right. While he had carefully read the Bible, there is little evidence that he believed in it as revelation.

Shakespeare excels in the titanic and gigantic. In some of his plays—Lear, for example—we seem to be present at the creation of the worlds and the wild conflict of the elemental forces. His conception of the destructive powers of the human soul—treachery, lust, jealousy—is beyond all question the most magnificent of any human writer. Here is his strongest point, as witness such superb dramas as Macbeth, Othello, Antony and Cleopatra.

More than any other poet that ever lived is Shakespeare the master of nature in all her moods. Earth, air, and sea, sun, moon, and stars, have all given up to him their secrets. Take an example or two—

"The moon was sick almost to doomsday with eclipse."

Analyze this metaphor and see what a vast

range of ideas there is in these ten words. Think of the moon's being sick with an eclipse and sick "almost to doomsday." Again, speaking of the ghost, Hamlet says:

"It is as the air invulnerable
And our vain blows malicious mockery."

And still again—

"See where the morn in russet mantle clad
Walks o'er the dew of yon high eastern hill."

And these are only three among as many thousand lines and comparisons equally grand.

Then, his pages are filled with profound observations concerning the human heart, human life, human motives and the great moralities, and those conservative influences which keep life sweet. "Thoughts beyond the reaches of our souls" everywhere confront us. Profound glimpses into the philosophy of government, of church and state, flash upon us at most unexpected places.

On the other hand, Shakespeare has most grievous faults and we must not shut our eyes to them. If he is a giant he is a barbarian also. He disdains all considerations of rhetoric and grammar. The old rule to test the correctness of a metaphor was "to paint it." What daubs would we make if we should attempt this test. Many of Shakespeare's characters are half savages. Many of his scenes would be tolerated only in Shakespeare, and for this reason cannot be staged. He takes delight in outraging all the proprieties and yet is always in the end proper. He also delights in puns, quips, and conceits which are indescribably dreary.

Had one-third of his writing never seen the light he would have been a far greater poet. Still, with all his faults—and the student must study them as well as his merits and beauties—Shakespeare remains next to the Bible, the greatest book ever written in the English or any other language. The study of his works is a life-long wonder and delight.

LOGANSPOET, IND.

WHAT SHALL CHILDREN READ?

SUPERINTENDENT W. A. MILLIS.

In these modern times of intense activity, of penny papers, cheap books, cheap magazines, of vast quantities of reading matter good, bad and indifferent, the control of the child's reading is no easy matter. The task is not disposed of by the exclusion of vicious books and magazines from our homes and libraries. In fact, the unbound, "yellow-back" books that come in for unanimous condemnation do but a tithe of the mischief accredited them. The "yellow-back" is an incident of degeneration rather than its prime cause. The problem of vicious books is really an easy one, compared to others that await us. The Old Sleuth, Wild and Wooly West, Diamond Dick, and other publications of their ilk, are really read by few of our boys, comparatively, and scarcely at all by the girls. Of course, there is a vast quantity of such stuff absorbed, but the number of readers of this variety is really far smaller than popularly supposed. Now and then the daily newspaper tells of intoxicated youngsters who equip themselves for mighty deeds of valor with the Red Man of the West, only to have their career cut short at the next town. But these cases so often cited as results of vicious reading are really few. Nor is there the extensive harm flowing from the insipid novels such as are hawked on railway trains and elsewhere. These are negative, characterless creations that really do little more than waste the time of the reader, and give him wrong methods of reading. The chief thing to be charged to them, is the listlessness into which the reader may grow; the debility that comes of mental starvation. Taste for such books also is a result, rather than cause, of wrong development. Great harm they do, and yet to few, comparatively. The classes of literature that are called "bad" and "trashy" do vast damage, but, with rare exceptions, this damage is confined to boys

and girls who are already defective. The normal youth does not suffer greatly from this variety of indulgence.

In the case of the normal child there are the greater problems of (1) reading approved books at the wrong time, and (2) of reading too many of them. A larger number of young people are seriously injured by reading good books at an improper age than by reading bad books. It is a law of child-growth that symmetry of mental and bodily functions, and of the several psychical functions, must be maintained if its growth be healthy. Instincts must be developed at proper seasons else their development will be arrested. The law may be stated thus:—The formation of a habit of thought or action, or the functioning of any activity of feeling, belonging to a relatively higher or lower stage of development than proper to the normal child tends to arrest his growth. If the psychic development is caused or permitted to outrun the physical development there will result both a morbid spirituality and debilitated physical functions. Activities and thoughts of childhood should not be prolonged into youth and manhood, nor should activities and thoughts and responsibilities of manhood be introduced into childhood and youth. One of the possible mistakes in the current emphasis of the myth and fairy tale in the primary school is that of carrying them too far—of prolonging this variety of literary activity beyond the proper season. Imagination over-stimulated loses its tone. The child begins in fancy but must pass to fact. Milk for babes and strong meat for men. But the transition must be gradual and constant. The primary teacher must make sure that she does not prolong first primary methods through second and third-year grades. But there is greater possible danger of violating the second phase of the law in the independent

reading of grammar grade, and high school pupils. A recent examination of the literature read by some one hundred sixty boys and girls ranging in age from eleven to eighteen revealed a large amount of inadvisable reading. The books read, were, on the whole, excellent books. Standard works of history, adventure, travel, fiction, politics, ethics and poetry were found on nearly every list. There was a considerable quantity of "hack" literature but not many books that are questionable.

The excellent quality of the literature reported by the pupils was a surprise to those making the examination. Reference to library records and other sources of information proved that the reports were not "padded." It was found that in the case of a large per cent. of the pupils, especially the younger ones, much of the matter read was clearly beyond their reach—beyond their intellectual and emotional capacity. Of course these books were not really *read*: they were scanned. They were drunk in for the sense elements they contain; for the nerve tingle which they produce. What but the sensuous in Dante's *Inferno*, *Hamlet*, *Macbeth*, *Trilby*, *The Scarlet Letter*, and the *Romance of Two Worlds* can appeal to girls from eleven to thirteen years of age? One seventh-grade girl eleven years old reported that she read during the summer vacation *The Bow of Orange Ribbon*, *Solomon's Mines*, *Scarlet Letter*, six volumes of *Bulwer*, *Prince of India*, *Pickwick Papers*, *Coin and Finance*, *Parties and The Men*, *Quality of Mercy*, *Ben Hur*, and *Ridpath's histories of North America and the United States*. A sixth-grade lassie joined issue with *Shakespeare's Dramas* for summer recreation. An eighth-year girl of fifteen summers reported that during the last year she read *The Merchant of Venice*, *A Winter's Tale*, *Romeo and Juliet*, *Hamlet*, *Coriolanus*, and *Antony and Cleopatra*. A girl sixteen years old, whose grammar is yet sadly deficient, reported *Ruskin's Sesame and Lilies*. It was found that the high school

pupils are reading less pretentiously for their degree of advancement. And yet, one young woman of sixteen has devoured *Drummond's Essays*, while another sixteen-year-old, who failed to pass, reported that she found great enjoyment in *Wilhelm Meister*. The majority of the pupils have read the very best books, and those reasonably adapted to their degree of advancement, but the number who read books above their intellectual and emotional capacity is much larger than those who have read trashy and pernicious books. The boys have read more wisely than the girls: read as good books and in better adaptation. Of course, the examination of one hundred sixty pupils is not a sufficient test. Yet it will serve to call attention to, and illustrate an error which we have reason to believe is quite common to young people having access to public and school libraries, and following the guidance of injudicious readers. The library fiend is a pernicious adviser. To her and to the false idea that the individual must read everything is to be credited a great deal of mental dissipation. It is unnecessary to speak of the deleterious results of the species of reading just illustrated. That there is great dissipation of energy is evident. That in most cases there can be no mastery of either content or form is obvious. Appreciation of literary qualities is out of the question. Children twelve and thirteen years of age have neither intellectual foundation nor emotional compass sufficient for such appreciation. And then, there is formed a method of reading that practically interferes with successful future study of literature. Three or four years of strained effort to read books which belong to adult life is pretty sure to ruin the child's power of literary interpretation. It is a maxim of pedagogy that it is easier to teach a child who comes to the subject without acquaintance than to instruct one who has been introduced in a wrong manner. The greatest difficulty which the teacher of literature must meet is the correction of wrong methods of general reading. This difficulty

is usually accompanied by another equally serious—a mass of wrong conceptions of books, which struggle pertinaciously for existence.

Examination of the books read by the girls between the ages of twelve and fifteen, showed a quite large reading of the dramatic. This was not shown so much by the selection of Shakespearean and other dramas as in the romances of extreme dramatic quality which were reported. While the average girl had not read any considerable amount of this variety, a conspicuous number had read to the extent of indulgence. These are good books—that is, they are generally approved. The question raised, is whether it is not physically and psychically injurious to young girls of this age to feed on the dramatic. The psychology of pubescence is not very definite nor complete, yet one fact seems to be established: The interests and thoughts of the pubescent period should be objective and not subjective; attention should be directed outward and not inward. If this is established, all literature, involving religious speculation, the psychology of love, of sin, of sex, and of kindred subjects, should be proscribed during these formative years of early youth. There are scores of books which everybody should read; books that are classic, which would be subject to such restriction. Possibly a large part of our dramatic literature would be subject to such discrimination. The so-called sociological novel raises another question. There are many valuable books dealing with current problems of social life which should find a place in every home and library, and yet, these are books so far beyond the reach of boys and girls that a result certain to follow their effort to read them is the formation of wrong views of life and its relationships, its liberty and its limitation. For want of sufficient experience, children read indiscriminately. Marcella, Trilby, and Robert Elsmere are famous books, but our fourteen-year-old is very likely to make an interpretation that is not only inadequate, but false

and a stumbling block. This cannot be dismissed as an idle suggestion. The reader will readily recall young people who have entered life with distorted, weak and false views, gathered in the premature reading of books which are intrinsically good. Another species of approved literature deserves mention here. The same evils that come of the "dime novel" may result in different form from the reading matter disseminated by our Sunday schools. The stories printed in the Sabbath school publications, are as a rule, unnatural. They are filled with exaggerations of child-nature, of opportunities, and of the demands of duty. They smack too much of the "goody-goody" that was once offered in school as proper food for character building. They depict abnormal conditions, priggish motives, and often very incongruous results. They misrepresent to the child his sphere of duty by holding before him highly improbable characters for his ideal. Just as the dime novel misrepresents the nature of heroism, and thereby unfits the boy for heroism in the small things whose sum is life for most individuals, so the "goody-goody" books and papers misrepresent the nature of piety, of religious service, of morality and fidelity in the small duties that constitute the mission of the normal boy and girl. A brief, but excellent discussion of this topic, is given in the October issue of the *Child-Study Monthly*. The reader will be fully repaid by its perusal.

Precocity is short lived. It is a mistake to urge children on and on. Precocious reading is dangerous. Reading is an instrument of culture, not an end, not culture itself. The much-read man may not be a well-read man, is not necessarily a cultured man. Any instrument of culture may be dangerous as well as helpful. Its value depends upon its use. Good books may prove as disastrous as poor ones if improperly used. They will do more damage than poor ones if read with wrong spirit and inadequate preparation of mind and body. Precocious reading and

thought and feeling mean precocity in physical development as well as in spiritual growth. Premature physical functioning, as a rule, means debilitated physical powers. The sensitive organism, psychic or physical, requires quiet, not excitement; peace of mind, not worry. Pubescence is a period of passion, of mental and physical exuberance. The youth should live in an atmosphere of utmost equanimity. The exciting, stormy and impassioned should be kept from him. It must be a time of intense activity, but of activity focused on the objective rather than the subjective. The books which come into his hands must satisfy these conditions. Books which look within, which are essentially subjective, which appeal to the morbid and to secret passions of the youth, which are intensely dramatic or present highly unreal views of life and its relations, are not safe material for boys and girls to build with. Premature reading, just as premature social activity, is sure to leave the individual with wrong "views," unhealthy emotions, morbid imagination and weakened will power.

Examination of the number of books read by these 160 pupils illustrates another common source of injury from books. The sixth-year pupils have read an average of six books each during the last summer vacation. Three boys had read none at all. One boy reported twenty books—good books such as *Black Beauty*, *Thro Russian Snows* and *Treasure Island*. A twelve-year-old girl had read sixteen books. A number had read ten and twelve. The seventh-year children averaged thirteen books each during the summer vacation. Four pupils reported fifteen books each, two reported seventeen each, two had read twenty, and one girl eleven years old listed forty-six books which she had read between the 1st of June and the 28th of October. Inquiry showed that she had gone through every page of forty-six standard books. Among them were the *Scarlet letter*, *Prince of India*, *Ben Hur*, *Barnaby Rudge*, *Pickwick Papers*, *Ridpath's histories*, *Beside the Bonnie Brier Bush*, *The Quality*

of *Mercy*, *Ivanhoe*, and six volumes of *Bulwer*. The forty-six books were read in a period of twenty-two weeks, an average of over two books a week. It is needless to mention shattered nerves and "flighty" mind. The average of the eighth grade for the last school year was thirteen books. A boy aged thirteen reported thirty-one books all of which are approved. One girl reports twenty-three books and another aged fifteen had read twenty-five volumes including six of *Shakespeare's dramas*. The first-year class of the high school reported an average of twenty-two volumes read in two years. One reported twenty-five books, four had read thirty each, one listed forty-six approved books, one named thirty-five, and a fourteen-year-old boy reported an aggregate of eighty volumes. One girl of the third-year class remembered seventy books read in four years, and two others over fifty each. One boy of the fourth-year class reported one hundred thirty-eight books read in five years, an average of two and three-tenths books per month. Another reported one hundred thirty-two books for the same period. When it is considered that these pupils could scarcely recall all of the books read, with a half day's notice, and that the books read are, on the whole, standard works of American and English literature, it is evident that such reading is mental dissipation. It was noticed that the pupils took manifest pride in the large quantity of reading which they had done—another result of the mistaken idea that the individual must read everything. These pupils have been injured by their much reading. Of many of them the studentship is not satisfactory. They have not the power of close connected thinking. They have a sort of literary glibness but not real appreciativeness. Not one of all these omnivorous readers has fair literary taste. They have read too much. Their extensive reading has been done at a sacrifice of intensive reading. They have over-worked themselves. They have suffered from the popular error which supposes that reading is culture,

and that the quality of culture depends upon the quantity of reading done.

Does not the problem of the quality and

quantity of the reading of our youth merit careful treatment?

ATTICA, IND.

THE DISCIPLINARY VALUE OF WORK IN ENGLISH COMPOSITION.

CHARLES SWAIN THOMAS.

NOT until a recent period in the history of education has the disciplinary value of modern language study been generally conceded, and even more recently has this concession been granted to the study of English. I fear that there are still many educators who have not seriously considered the value of systematic work in English composition as a means of disciplining the mind, and making it more responsive to varying manifestations. Most persons admit freely enough its practical significance, but the disciplinary value of composition work they would question,—or, if they do not question it, they are content to think only of its practical phase. The other side deserves a careful consideration.

One of the first noticeable effects of constant practice in writing is increased power of observation. An untrained writer attempting to describe some old building he passes every day will find himself hampered because the numberless details that connect themselves with this particular house do not stand out distinctly in his mind. Realizing this, he feels that he cannot present them to his readers with proper vividness. The next day he carefully observes the house, and is surprised at the many things that heretofore had escaped his notice. He has begun to form a valuable habit; close observation of this particular house tends to make him more watchful of the things he constantly sees around him. Or, perhaps, in writing a narrative he wishes to bring out the character of the little blind boy on Washington street from whom he buys a *Herald* every morning. He finds the task difficult, because he realizes that he has not enough positive data at his command. Thus he learns his limitations, and to broaden them he becomes more observant of people as he meets them under constantly varying conditions. The habit grows, until careful observation leads him more deeply into the meaning of things; the dull, the commonplace and the prosaic become endowed with fresh interest suited to artistic handling. The growth may not have been rapid, and the ability to see the essential may not have been fully acquired, but the habit he has formed will prove invaluable in his future composition work.

As supplementary to this habit of observation will be the discipline the learner acquires from close care and discrimination in the use of words. Naturally our first attempts are crude,—we use words in a loose and colloquial sense without thought of the different shades of meaning. But experience teaches us that in order to express the more subtle ideas that we sometimes have, we must use great care in choosing the word or expression which corresponds most closely to the idea. Besides increasing our vocabulary, we learn after a time that different words have different meanings to different people, and we see that in our selection of words we must carefully consider "their denotation, what they name; and their connotation, what they suggest."* Now, in learning to discriminate closely in the use of words, we naturally acquire some facility in detecting similarities in material things, and in this our power of observation again receives valuable training.

But care and discrimination in the use of words has the additional advantage of developing the aesthetics of one's nature. When we select the word that nicely fits our idea, we begin to feel that sense of exactness, of proportion, of harmony, which is the essential element in art. It is related of General Lew Wallace, that in writing *Ben Hur* he searched three days for an epithet which would describe the appearance of the atmosphere on a certain moonlight evening. Finally his wife suggested *opalescent*, and the word was immediately selected as adequately and artistically portraying his idea. But not only in our choice of words is our aesthetic sense developed: in our arrangement of words in sentences, of sentences in paragraphs, of paragraphs in whole compositions there is a constant appeal to the artistic nature within us. The very sound of the words as they flow after one another, the proper relationship of part to part, the unified impression which is created,—all these are art considerations.

The artistic expression of our thought brings us into direct relationship with literature,—for lit-

* Barrett Wendell's *English Composition*. Contents p. VIII.

erature is nothing more nor less than artistic expression of thought and emotion in written words. Having learned in a feeble way to portray this art,—and a very feeble way it is with most of us,—we grow more responsive to this perfection as we see it portrayed by the great literary artists. And the consequence is that literature is more easily appreciated. The crude story which we wrote yesterday, our weak attempts at verse, both help us to understand more fully the significance of George Meredith's novels and the beauty of Wordsworth's best poetry. And the moment we become appreciators of literature we become critics, and continued criticism of the works of the masters will

tend to make us more keenly alive to our own limitations and severer critics of our own productions.

We may never approach very near to that high standard of excellence, which we as students of composition have all the while been unconsciously rearing, but as we look back over our field of labor strewn with wayside failures, we can readily see that our power of observation has been intensified, that we have learned to discriminate more carefully in the use of words and expressions, that our art sense has been more fully developed, and that we have learned better to appreciate the good and the bad as we see it reflected in other writings.

CAMBRIDGE, MASS.

THE TEACHER PREPARING THE WORK.

WELFORD D. WEAVER.

THE last paper dealt with some elements of teaching power. My purpose now, is to continue or supplement what I then said, and to write of the teacher preparing the work. There is a very near relation between success and methods of work, and there is always the largest success where the work has been done through well considered plans and methods. To properly place before you the true value of this phase of our professional life, it will be only necessary to mention a few tendencies which are quite common among teachers.

(a) *There is danger in the great wealth of material and of opportunities.* We have so much that we are almost bewildered with the profusion. The breadth of life to-day is so great, the horizon of vision so wide, the range of our influence so far-reaching, we are liable to be content with but a little or to be lost in sheer admiration. "The life of the whole round world is humming and buzzing, shouting and singing, laughing and crying, whispering and thundering, and all at once, its story into our ears."

The very greatness and multitude of our opportunities and privileges may weaken our forces as men and as teachers. The abundance of our pleasures may diminish our joys and vastness of our resources may dissipate our teaching power.

We are told that the genius of statesmanship is declining, that the power of the pulpit is waning, that literature is losing its power, that social life is not what it once was; and, while the statements are not unqualifiedly true, they have enough truth in them to at least sound a note of warning in our professional world that we be not intoxicated with the lavish supply of material, the luxurious ap-

pointments of our place, or the magnificence of our opportunities.

(b) *Lack of symmetrical teaching.* There is a loose practice of shoveling all sorts of ideas into a recitation simply because those ideas are accessible at the moment or may have a more or less direct relation to the subject under treatment. Facts and principles that bear little relation to each other are mingled with no proper regard for their true treatment. There is a wide field for a correlating in teaching, but is not permissible to allow our recitations to resemble, in arrangement of make-up, the first page of a daily paper. Scrap work is one thing and a garment quite another.

Not only is there a lack of symmetry noticeable in the single recitation, but in the work of the year taken as a continuous whole. Whether it is true or not, one cannot help but feel, in visiting the school-rooms and observing the work actually done, that educational values have not been carefully determined by many teachers, that the same amount of energy and time and attention are given to all subjects, and that all parts of the same subject should receive equal attention. It is really alarming, sometimes, to see the vast amount of time actually wasted upon the nonessentials to the detriment of the essentials.

(c) *Want of independence of thought and method.* It is not incumbent on teachers to mark out a course of study, for that is always provided, or at least should be. It is their function to interpret and teach what is indicated in the course of study. It is very noticeable that the "eternal why of things" has not been as carefully considered and answered as the importance of the work demands.

When asked why we teach certain things in a certain manner there is often a look of blank surprise which expresses, at least, a query as to whether work and methods are legitimate fields of investigation. There has not been enough intelligent inquiry on the part of the school people in general about such matters. The work done will vary exactly as the teacher's observation and reading varies. Let the teacher read Dr. Harris and for a few weeks that great master spirit will be found in the school. The teacher gets a copy of one of Colonel Parker's books and soon the genial nature of the author will fill the atmosphere. One conversant with the different school journals will easily detect, as he passes from room to room, whether the teacher is reading or not, and what paper, if any, is taken.

I have no word of criticism against the reading of books and papers and certainly want to encourage it as far as possible. Yet, many are losing their intellectual self-reliance, and sinking their own personality by the improper use of such aids.

They plan and teach and do just as they have seen others plan and teach and do; or, have read that it has been done thus and so somewhere else. When one has investigated his work and methods for the reasons why he is doing as he is, and has arrived at clear conclusions, he is an independent teacher. All teachers need to do this.

d. There is a tendency to rest upon present attainments. This is not a fault common only among teachers, but one of those universal features of mankind which is seriously interfering with the best work of all. We are inclined to be content with a little—the cup of satisfaction is small and as a natural consequence is quickly filled.

There is danger in the teaching profession that the routine of work will finally deaden and enslave instead of vitalize and enlarge the power. That teacher is best, who allows familiarity of subject and method to kill the aspirations and desires for doing more and better each succeeding term of service.

e. There is waste of teaching power. By sad experience I have found when I have not been successful it nearly always has been the result of one of two things: either I was doing my work out of time, for there is a time for everything, or I was not doing the work as I should do it—that I was doing it badly. This seems to be a common experience, true in the school-room as well as in other affairs of life. Enough time and energy and anxiety are put into the work; but are the results commensurate with what is put in? This becomes a serious question and worthy the candid investigation of every honest teacher. To my mind the schools are suffering more from misapplied energy

than from any other one thing. The teachers have teaching talent, they have enthusiasm, they have a sincere desire to truly teach; but all of these things do not take the place of well directed and timely efforts. The time, the method and the matter must all be wisely chosen if there be the richest results from the teachers effort. From considerations like the above, I am led to believe that a word concerning the preparation of the work will be timely.

PROVIDE PLENTY OF MATERIAL.

In urging teachers to become rich in teaching material, it must not be understood that this is to take the place of the text-book. It is not the specific preparation of any given recitation—this I hope to speak of at some future time. It is that large preparation and general training of self and the cultivation of those qualities which are indispensable to all effective work. There is a needed special preparation for each day's work, but before we can do this well we must furnish ourselves with things which are out everywhere in the broad areas of life.

It was Cicero's conception that oratory included the study of philosophy, of laws, of the arts of reasoning, of history and poetry. He felt that for a man to speak effectively to his fellow-men he must be a man whose range of study and of thought was large. Everything belonging to the provinces of human thought and life, of human history and human nature should enlist his interest and provide food for his thought. His range of being must be larger than his profession. In the same spirit Gounod said to his pupils, "Be wider than your calling." That he thoroughly believed this may be seen from the fact that his library contained many choice works entirely different from his profession. Medallions bearing the names of great men decorated his staircase. Raphael, Mozart, Beethoven, Michael Angelo, Bach, Rubens, Rembrandt, Dante, Homer, Shakespeare, Cervantes, Corneille and Moliere were there. Thus, from a variety of sources and influences he gathered inspiration for his work.

Lord Tennyson's study preached this same great doctrine of being rich in material, for the walls and book-shelves were all covered with the world's choicest thought. The poets were there, as a matter of course, but philosophy, theology and history were side by side with the masters of song, and the great soul of the poet found strength and rich treasure in their companionships. This is one of the reasons why his poems touch the depths of the human soul. Richness of resource gives one that power of conviction that nothing else will. A wide and diversified range of thought and of study gives a reserve force to personal char-

acter as well as to professional effort. A life made rich from contact with the best thought has a power like the tide of the sea, moving silently though perceptibly, lifts up and carries on its bosom with ease all that comes within reach.

It is this conscious, deep-sea feeling of the entire man that has power to move men and to change the currents of thought and mold the character of coming generations. This power is only possible when we have appropriated the rich treasures of to-day which may be ours with but the taking.

The teacher should train himself in habits of study, of observation, of conversation, of reading, of appropriation that he can make as his own, for teaching purposes, anything he sees or reads or hears. The eye of the artist becomes so proficient that he instantly sees the essential features of the landscape and the ear of the musician can create an anvil chorus from a blacksmith's forge; so the commonest sights and sounds of men, the reading of all sorts of books and papers, and the daily intercourse with all sorts of people should thoroughly furnish the teacher with the choicest of materials. Thus equipped he should never become dull and uninteresting. The teaching of such persons is an inspiration for they have the latest information, the most advanced ideas, fitting illustrations and are bringing to bear upon their work the contributions of the entire world.

The larger this appropriation of knowledge from all sources, the more efficient becomes the worker. Intellectual and spiritual riches in the teacher are quickly recognized and appreciated by the children, and poverty along the same lines is as quickly detected, and when once known the teacher's usefulness is gone. "No one can hold the attention or command the respect of a people to-day who can not instruct them, who is not in his special line of knowledge in advance of them, and is not every day taking in more rapidly than he is giving out."

If teachers would only appreciate this, that it would add immensely to their power were they to rise to higher aims at self-development of all their powers, and an enlargement of all their resources by gathering from all fields of knowledge.

Current literature is very rich with matter of direct helpfulness in the preparation of our daily work. Unless pains be taken to preserve and arrange it as it comes in daily and weekly and monthly publications, it is very likely that we never will get it. To the one who is patient and careful and is willing to pursue this work for a time, there will be great rewards. Almost every paper or magazine has something of interest and of value for the teacher. Matters of history, facts

of geography, progress in science of a general nature, travel, description of scenery are found in almost every publication now.

This field of information should not be neglected. The writer speaks from a personal experience of more than twelve years in the preservation of clippings along the lines of his own work. As a result, I have a fund of several thousand articles upon more than a hundred different subjects. By having them classified I can, within a few minutes, put my hand upon anything I may have upon any one of the given subjects. They do not take the place of more elaborate discussions as found in books, but in them I have many a fugitive waif which has been as suggestive and helpful and stimulating as anything I have gotten from books. I have no hesitation in urging, with all my power, teachers to formulate some plan for saving the good things in the current literature and put them to use in teaching. It will cost a little time, but the expenditure if wisely done, will richly repay all that it costs.

One of the most important things in this preparation is the acquiring of material and the extending of our acquaintance with philosophy, history, and scientific discovery. Most likely a large number of my readers have listened to recitations which were positively painful to all concerned because they were so dry and uninteresting. There was an attempt to teach something which was not well known nor well settled before hand. Such efforts remind me of a game called "Fish Pond." In this game you use something which is not a fishing pole to catch something which is not a fish, and yet it is called fishing. So the empty teacher conducting a recitation, uses the time and goes through the motions of a teacher, but has not been more efficient in true teaching than has the parlor fisherman in landing real fish.

For the sake of vigor of mind, of moral vigor, of intellectual integrity, for increased effectiveness in teaching, every one of the vast host of teachers should see to it that he is constantly enriched by nothing but the choicest and most nutritious mental and spiritual food available. Teaching fed from such reservoirs will be fruitful and satisfactory.

DEFINITE PURPOSE IN EVERY RECITATION.

It is not enough that the teacher should have a desire to do good and to teach successfully, but every recitation should have some definite result to be accomplished, and should be a shaft shot at some mark. An inventor constructs a machine, not for the mere satisfaction of making, but that it may work, and work out its object; a lawyer formulates his plea, not that he may use so many sheets of legal cap paper, but that he may win the



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THE STUDY OF SHAKESPEARE.

DANIEL P. BALDWIN.

FULLY one-third of Shakespeare had a great deal better never have been written, and the first capital rule in his study is to know what to omit. Excellent hints in this direction may be found in the stage edition of his plays. Your actor knows by instinct and experience that there are pages upon pages of dreary puns and quips—of turgid rhetoric and incomprehensible metaphysics which will not bear repetition any more than the filthy paragraphs in which the coarseness of three centuries ago delighted. So there are a great many minor Shakespearean characters which are not worth trying to remember. And there are also plays like *Titus Andronicus*, which, if ever written by the great bard, had better never have been printed. The first requisite of a profitable study of Shakespeare, then, is to know what to omit. Don't be afraid to run your pencil through his unworthy paragraphs. While the student must needs read all, it is only with a view to profitable omission as a matter of study.

I recommend the study of Shakespeare in three divisions, each of which can be carried on at the same time,—comedy, history, and tragedy. Select the best and the most popular first. Begin with *Hamlet*, *Julius Caesar*, and the *Merchant of Venice*, and then, as these plays are successfully mastered, follow them by *Othello*, *Antony and Cleopatra*, and *As You Like It*—always keeping one play of each division upon the stocks until you read them all, reading the poorest and the

least read the last. The English historical plays must, however, be read successively to get the best results. After reading *King John* to get Shakespeare's historical style, begin with *Richard II.*, and follow it by the Lancastrian plays in their order, and afterwards the York dramas, closing the series, with *Henry VIII.* Prior to attacking these, read Abbott's history of *Richard II.*, of *Margaret of Anjou*, and the *Henrys*, so as to be advised beforehand who Shakespeare's historical characters were and what were the great events which he pictures. Failing to do this, a great deal of time and study may be thrown away unnecessarily. As a historian Shakespeare is controlled by English prejudices. His characterization of *Joan of Arc*, a horrible caricature, illustrates this. And his estimates of any event where England is concerned must always be taken with allowances.

First and last, the student of Shakespeare should aim to be his own critic. To do this he should commence early his studies in characterization. As I recommend that he begin with *Hamlet*, let him read carefully, and re-read critically, everything said by or about a given character—*Ophelia*, for example. Then make an estimate of her. She was a sweet girl without any will of her own; mere putty in the hands of others, and whose reason gave way when trouble came. As I recommend reading *Othello* next, make a similar study of *Desdemona*, and you will find that she was no such woman. She had

specific nature, will save much energy and protect one from the roar and glitter of the world which might deafen and madden.

The teacher should never forget that his calling is one of the biggest and broadest of all callings. And a calling, which, if it is rightly pursued, will make one big and broad. Success does not descend upon the careless and idle; but to those who are willing to work the power comes. The more that we reverence life, our profession, our work, the more certain I am that we will never give up thinking and reading, and studying. With such a spirit we will not expect something from nothing, but will be willing in our profession, to toil and plan and gather so long as the vigor of life remains in us.

A HOOSIER IN CALIFORNIA.

What boy or girl who has in the study of our great country made imaginary trips to different parts of it, to see its wonders and learn of its natural resources, has not hoped at some time to realize these visionary journeys? Who has not longed to stand within the sight and sound of the great falls of Niagara; to explore the labyrinthine halls of Mammoth Cave; to see the mighty Mississippi rolling seaward; or to cross the Rocky Mountains and visit that far-famed "Eldorado," the State of California? No student of geography was ever more desirous than I to learn of this, the second largest state in the American union, to see its lofty mountains, to actually climb their steep ascent, to behold the fertile valleys covered with golden grain and its foot-hills which furnish pasturage for thousands of sheep and cattle.

I shall refrain from giving statistical facts and data; these if desired can be obtained from any good text-book on geography and in themselves are common-place and known to many. What I shall attempt to do in my own way, will be to state a few things that I have seen and learned in California which cannot be gotten from any source that I know of, short of a trip to this state. I must say right here, however, that the scenes and incidents described as well as the conditions stated are confined to the southern part of California, and in order not to lead my readers astray it is due to them to say that this section is called the "Land of Sunshine and Flowers." In the northern part of the state there is considerable cold weather during the winter months, though it is not so cold as in the same latitude in the Mississippi valley and on the Atlantic coast, because the warm Japan current moderates the temperature. At San Francisco and other places north there is a great deal of rain and fog during the winter and

early spring. These with their attendant cold make the northern part of California far less attractive and healthful than the southern. In the seven southern counties it rains more or less continuously during December, January and February. This is our wet season. What seemed a little strange to me was the fact that it rained at night and sometimes on Sundays, but rarely on a week day. This doubtless is a wise providence, for the western man can ill afford to lose a single day. With him the adage holds that "Time is money." Last winter we had very little rain, and as a result the fruit crop and other agricultural products are not what we expected. Water for irrigating and drinking purposes is becoming scarce in certain localities, and even some artesian wells are failing. Before the rainy season set in the ranchers (farmers) had sown their barley, many of them as much as a thousand acres, and were waiting for sun, soil and rain to do the rest. Now, that it may not seem incredible that one man should cultivate a thousand acres or more, it is well to remember that gang plows are used, with not less than six horses to each. From eight to ten acres is a day's work for one plow, so that when a rancher has from two to eight of these plows he can do a great deal of work in a short time. I said above that some men cultivate a thousand acres or more, and I just recall the fact that on the San Joaquin Ranch, belonging to James Ervine, and containing one hundred and fifty thousand acres, a ranch where I had the pleasure of spending a week during the threshing season last summer, there are several renters who, either alone or jointly had five thousand acres of barley each. To thresh the grain raised on the ranch above mentioned there were engaged seven steam threshers for three months, whose average daily out-put was nine hundred sacks per thresher; a sack being from 100 pounds to 130 pounds, according to the quality of grain.

I had heard of the manner in which farm laborers were treated in this state before I came here. I had been told that men who had worked hard all day from 4 A. M. to 8 P. M., ate their meals in a "cook-house" and slept "out doors." Of course, this seemed incredible to me while in Hoosierdom, where the "hired hand" is treated as one of the family, but it is, nevertheless, a fact. The cook-house is a large box-wagon, having the shape of an eastern "summer kitchen." It is drawn from place to place so as to be near the *field of action*, and is generally presided over by a Chinese cook. The fare consists of bacon, beans, bread and black coffee. Everyone who essays to work on a ranch must provide himself with a blanket, and when night comes, he rolls himself up in it and lies him down beneath the vaulted dome of heaven, to gaze

in wrapt amazement at the stars until his weary eyelids close in slumber. Happy if his sleep is not broken by the advent of a sportive "rattler" or a wandering tarantula. But, notwithstanding all these *little inconveniences* of bed and board, there is a certain fascination about this "rough and ready" farm life in the far-west that those who once become initiated to it enjoy. It is life-renewing and life-giving, and the eastern "tenderfoot" who has but a part of one lung left can do nothing better than to indulge in just such an occupation as above described. The description given applies to large grain ranches. The grain is harvested with a "header," a machine which cuts a ten-foot swath; and only so much of the straw is taken as will insure getting all the heads of the grain. The grain is elevated by this header into large wagons which follow along after the machine; when one is loaded another takes its place. The headed grain is thrown loosely into large piles, where it lies until threshed. No barns are needed and there is no danger that an unfinished stack will be caught in a rain.

In the most fertile regions the land is too valuable for grain raising, and it is utilized for fruit ranches and vegetable gardens. The fruit ranches consist of orange, lemon, apricot, peach, apple, pear and plum orchards. Besides these there are large groves of English walnuts, and extensive vineyards. Small fruits, such as berries of all kinds, guavas and plums in endless variety are well suited to the soil and climate. For size and beauty California apples, pears and peaches cannot be surpassed, but for flavor the fruit of colder regions is superior. Nearly every one has heard or read of the monstrous size and weight attained by fruits and vegetables of the California type. Those who attended the World's Fair and saw the exhibit of California have a truer conception of the truth in this matter. For fear that to the uninitiated I may appear to be as big a prevaricator as any "Native Son of the Golden West," I shall abstain from giving the weights of melons, pumpkins, sweet potatoes and fruits which I have seen weighed.

When the orange and lemon are in bloom the trees are clad in purest white, and the air is thick with the perfume of their flowers. As might be expected, fruit is cheap and much of it is used as food. I must relate here a little incident that occurred on the second day of my stay in California. In walking along on one of the principal streets of Los Angeles, I came to a fruit stand where there were some fine Muscat grapes. I asked for five cents' worth and the man weighed them out. Seeing that I was about to get more than I had any desire to carry with me, I asked if he had not made a mistake. "No," he said, "grapes are

worth a cent and a half per pound." I made up my mind that when I bought five cents' worth of fruit thereafter, I would ask whether I needed a basket.

The vegetable trade is almost exclusively in the hands of the Chinese. They rent small patches of ground in the vicinity of the city, raise the "truck" and peddle it out. Vegetable raising, laundry work and cooking are the chief pursuits of the celestials. I have always had an antipathy to the "heathen Chinese," and since my sojourn here, where their degrading influence is so plainly seen, my dictum is, Send every Chinaman out of the country.

The climate of Southern California leaves nothing to be desired; sunshine for three hundred and sixty days in the year, flowers of all kinds growing in wildest profusion out in the open air the year round, the heat of summer tempered by the ocean breeze, and the winter cold dispelled by almost tropical heat. Its scenery is of the finest and grandest; its places of resort for pleasure and health—the mountains, sea-coast and islands,—are second to none.

The public schools of California rank with the best in the United States. Their course of study includes all that is taught in Indiana, besides music, bookkeeping, calisthenics and science. Most of the teachers in these schools are college graduates or hold diplomas from some Normal school. A knowledge sufficient to obtain a twelve-months certificate in Indiana would be too meager to obtain a certificate to teach even in the primary grades in this state. There are three State Normal schools, one at Chico, another at San Jose, and the third at Los Angeles. The state requires annually seven hundred new teachers to fill the vacancies that occur. Considering, however, that this part of the state is the Mecca for "one-lungers," and for worn-out and broken-down college professors and pedagogues of the East, it is not to be wondered at that even with so many places to fill there is a scramble for positions. Wages are fairly good for all kinds of work, but prices are high for all necessities of life, and work is scarce.

In conclusion let me say this; that while California is rich in natural resources, agricultural and mineral, and its climate is unsurpassed, it is decidedly the rich man's country. There is to my knowledge no part of this country where you can enjoy life more and live longer than in California, but you must bring the money to live on with you. A poor man has no business here; in the mad rush for wealth and position by his more favored fellows the life will be crushed out of him in eking out a bare subsistence. If you have money and want to spend it enjoying yourself, if you desire to be aristocratic, and mingle with the

cosmopolitan world of fun and fashion, you can find few better places than Los Angeles or San Francisco. But, if you are doing well, and if you are not doing quite as well as you might wish, be-think yourself twice before you leave your kindred and home ties to try your fortune in "The Wild and Woolly West."

H. A. WIERWILLE.

SAN BERNARDINO, CAL.

SCIENCE IN THE TEACHING OF ENGLISH. XVII.

THE THREEFOLD PURPOSE OF PRIMARY LANGUAGE WORK.

The last paper tried to make clear the points that the primary language work should contribute certain elements to the child's character, and that it should give him the power to use the English sentence as an instrument for expressing his thought.

In the third place, the language work should prepare for the higher language studies. There should be in the language work, a line that will lead up to technical grammar, and a line that will lead up to composition and rhetoric. The language subjects are all mutually helpful. Each sheds light upon the other. One could not make much progress in technical grammar if he did not have the ability to read. On the other hand, the power to analyze a sentence, which one gets in technical grammar, will often be of substantial aid to him in reading and literature. One must know how to construct sentences properly before he can successfully study composition and rhetoric, and the study of composition and rhetoric will enable the child to construct sentences more skillfully.

But in planning the language work, the teacher should consciously arrange the work with reference to these higher subjects to which the child is to study later, and this divides the primary language work into two somewhat distinct lines; viz, a line of work in which the sentence is the unit, and the work is largely oral, leading up to the grammar work; and a line of work in which the unit is discourse and in which written work predominates, leading up to composition and rhetoric.

The first line of work, which is largely oral and prepares for technical grammar, and incidentally for the composition and rhetoric, has been discussed in previous articles in this Journal. (See the April and May numbers for 1896, the articles entitled, "The Art Side of English." Also the article in the June number for 1896, entitled, "Language Work Must Never Become Formal."

It seems to the writer that it would be almost impossible to emphasize too strongly this line of oral work. The careful and pains-taking supervision of the oral speech of children; the correction of errors in English at all times; the care to use good English in the hearing of the pupils; the putting of high ideals of English in the form of our gems of standard literature before the children, calling their attention to the beauties of the language, thus cultivating in them a taste for pure English—these are of the utmost importance in making the children proficient in the use of the mother-tongue. These means will do much more for the child in the way of giving him pure English than can be done for him by teaching him the definitions of technical grammar.

The work indicated in the preceding statement, may be supplemented by the following, which will prepare at the same time directly for technical grammar:

THINKING AN ISOLATED SENTENCE INTO A CONTEXT.

"She came to my window early every morning."

The above sentence is placed before the children, and the teacher gives them the following instructions:

1. Think carefully the thought expressed by the sentence.

2. Tell a story and use the above sentence in it.

The children will not do well with these stories at first, but practice and hearing the best stories told by the brighter pupils, with an occasional story told with special care by the teacher, will soon enable them to do much better. One can easily see how the work will develop thought, on the part of the pupils, and call forth the most choice English at their command.

Suppose now, that out of all the stories which the children have told, using the above sentence, the teacher selects the following as the best:

"Last summer I spent a week in the country, at the house of my aunt. It was early in the summer, and many birds were building their nests in the large trees that surrounded my aunt's house. One saucy little wren built her nest on the ledge just over my window. *She came to my window early every morning.* She worked with such diligence, carrying the sticks, straws, and hair in her little beak, that in three days the nest was complete."

After the story has been made as perfect as possible, by the omission or insertion of a word, or the changing of the expression here and there, the attention is fixed upon the italicized expression which each child has put into his story. Each

word in the sentence is then taken up and its exact use in expressing the thought is determined.

The teacher may ask the pupils to state what the word, "she," in this story expresses and how it expresses it. With the aid of the teacher's suggestions and questions, the pupils will be able to see the following:

1. The word, "she," expresses an object of thought without naming it. That it expresses an object of thought will be evident, from the fact that the idea expressed by it, is an idea about which we may say, or tell, or affirm, or assert something. That it does not name the object of thought, will be evident from the fact that in this story, the word, "she," expresses the object of thought, *wren*. But in the other stories which the children have told, it may express the object of thought, *girl, horse, dog, cat*, etc. In a somewhat peculiar story, the word, "she," might express *moon*, or some other inanimate object with gentle qualities.

2. The word, "she," expresses one object of thought.

3. It expresses an object of thought of the female sex.

4. It expresses an object of thought which is spoken of.

5. It expresses an object of thought which is the subject of thought or the object of thought about which something is told or said, or affirmed or asserted.

With regard to the word, "came," the following points may be worked out:

1. It expresses an attribute or act.

2. This attribute or act belongs to, or is performed by the object of thought, *she*.

3. It shows that the act was performed in the past.

4. The object of thought which performed the act is the object of thought spoken of.

5. Just one object of thought performed the act.

6. There was actually an act performed, corresponding to this thought.

With regard to the word, "to," the following points may be worked out:

1. It expresses a relation.

2. The relation is between the idea, *came*, and the idea, *my window*.

The work on the other words in the sentence would differ only in one or two particulars from that on the words already given; e. g., the word, "window," would not express an object of thought without naming it, but would express an object of thought by naming it. It would not express an object of thought of the female sex, but an object of thought which has no sex, etc. I take it that

the points of difference will be easily seen. All this work may be oral, if the pupils are too young to write, or it may be written in the third grade. In these lower grades, perhaps only the easiest points should be worked out concerning the easiest words. The pupils might begin with substantive words, leaving out case, and perhaps one or more of the other most difficult points. The easiest points concerning attributive words might be taken up next and relation words, which are most difficult perhaps, could be taken up still later in the course.

The reader will notice that in all this work the pupil uses no definitions; he is not asked to formulate a rule; he does not try to apply any principle; he does not use the technical terms of grammar; e. g., noun, verb, case, number, gender, etc.; he uses no baby talk like *name words, action words*, etc. His entire attention is devoted to trying to determine the use of each word in the expression of the thought. But when he is capable of doing this kind of work skillfully, he has an excellent basis for technical grammar. In fact, he knows technical grammar and when he afterwards reads, "Number is that property of the substantive words which shows whether it expresses one or more than one individual," he sees that this is no new point to him. Nor is it obscure, for his previous experience has given him a content which he puts into it.

In connection with this work, the child must be led to observe carefully the changes which the form of words undergoes to indicate these changes in meaning. He will observe that when the word expresses one object of thought it is *window*, but if it expresses more than one object of thought, it is *windows*. If we are saying or telling, or asserting, an idea of one object of thought, we use *is* or *comes* or *walks*; if of more than one object of thought, we use *are* or *come* or *walk*. To express the object of thought about which something is said or told or asserted, we use the word, *I*; but if we wish to express the same object of thought when it is the object of thought *told* or *struck* or *offended*, we use the word, *me*.

Children may be led to observe all these changes in form; to explain them or see the change in thought which makes the change in form necessary; to note the exceptions; and all this may be done without the use of technical terms, definitions or rules. The child is thinking all the time; he is making an effort to express his thought in correct English; at the same time, he is laying a foundation for technical grammar; and all three purposes of the language work are thus accomplished.

The language work of the first three years is the

most difficult. As a rule, the language work done during this period in our public schools is very poor work. It is aimless, scrappy and unorganized. This is not so much the fault of the teachers; it is largely because the work is not mapped out and properly directed. Teachers do not know what to do in this early language work, and they have not been helped and directed by properly arranged courses of study and text-books. It has been my purpose in these last two articles and in the three earlier ones referred to above, to give some assistance to the work in these grades. All this work will be largely oral, although the written work is not to be neglected and should begin almost as soon as the child enters school. More specific directions as to how the work should be done will be found in the author's "Language for the Grades." In the next article, I wish to take up the line of written work or composition, beginning with the third year grade. But now in concluding this article, let me recapitulate by asking: "What can the teacher do in the language work below the third year?" Part of the work will be written and part will be oral; this work will not be finished in the first three years; some lines of it will need to be carried throughout the entire school course: this is not all the work which may be done, but the line or kind of work is herein indicated. The following lines of work should be carefully followed:

1. Correction of oral and written errors.
2. Conversations about pictures, animals, birds, plants, etc.
3. Careful drill in pronunciation.
4. The careful study of gems of standard literature, calling attention to the beauties of the language, and the reproduction of these selections by the children.
5. Guessing animals, birds, plants, etc. Biographies of men taken up in the same way.
6. The simple points in punctuation, use of capitals, etc.
7. Spelling. (Give much attention to it.)
8. Thinking the isolated sentence into its context with all the work connected with it, as indicated in this article.
9. Describing an act.
10. Let the teacher set a good example for her children by being careful to use good English herself at all times.

J. B. WISELY.

"If you would know the value of money go and try to borrow some, for he who goes a borrowing, goes a sorrowing."

A LITTLE SERMON ON FIDDLES.

In the November number of *The Western Teacher* the editor quotes the following "fiddle" story and draws from it the very practical lesson that follows:

James Whitcomb, who was Governor of Indiana in 1844, was a prominent citizen in early days; he was one of the best amateur musicians in the country. Once he was traveling in Eastern Indiana, and stopped for a night at a house on a lonely road. He entered the cabin, and found a lame young man, named Amos, sitting by the fire, and scraping an old violin with disastrous results. He laid the violin on the bed, and started away to the stable. Mr. Whitcomb took up the violin, tuned it, and when Amos returned, was playing light and beautiful airs. Amos was entranced. He sat down, and, with mouth wide open in wonder, watched the musician. Mr. Whitcomb struck up "Hail Columbia," and the youth could bear it no longer. He sprang to his feet.

"If I had fifty dollars," he cried, "I'd give it all for that fiddle. I never heard such music."

Mr. Whitcomb kept on playing. By and by, when he had finished, he laid the violin on the bed. The young man sprang up, seized the instrument, carried it to the fire, where he could see more plainly, and turned it over and over, examining every part. "Mister," he sang out, in high excitement, "I never in my life, see two fiddles so much alike as yours and mine."

"If I had a good supply of apparatus, wall maps, globes, reference books, etc., as Miss A— has, I could get good results in geography." Perhaps you could, but are you sure? Are you so full of the subject that you can use these appliances effectively?

"I visited the schools in —ville yesterday, and saw Miss — teaching a primary class in reading. She uses the — method. The results were wonderful. I will adopt the method at once." Slowly, thoughtfully, my enthusiastic friend! Possibly Miss B— could play on *your* fiddle and make good music.

"The children in the —teenth ward are so much brighter and better behaved than those in our district. If I had a school made up of such nice children"—

Be kind to yourself, be true to that idea which regards the teacher as an artist, and refuse to indulge in such complaints against your environment. Suitable apparatus, good methods, and intelligent, clean, wide-awake children help greatly to make a good school, but *the fiddler is much more than the fiddle.*

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"Knowledge is a continuous becoming; it has never attained—it is always on the way."—PRESIDENT SCHURMAN.

SCIENCE WORK IN THE ELEMENTARY SCHOOLS.—V.

A STUDY OF TEETH.

We talk of the classification of the human teeth with little idea of the significance of this classification and of the meaning of the terms. We talk of enamel, dentine, cement and pulp cavity, and crowns, fangs, and cusps, with little idea of the variations of these parts. A knowledge of human teeth from a study of human teeth alone, is narrow and bookish. To know all about our own teeth we should study the teeth of some of the lower animals.

With a little pains, any teacher can by the assistance of his pupils, make a good collection of the skulls and teeth of the squirrel, rabbit, dog, cat, coon, horse, sheep, etc. Skulls and jawbones are often found in the woods and fields, well cleaned and bleached. Such are very desirable, because the teeth are often loose, and in study can be removed from their sockets. But we cannot depend altogether upon the chance of finding specimens in the woods; we must take the trouble to prepare them. The woods specimens are good to test ourselves on what we have learned about the known prepared specimens; e. g.—Does this fragment of a jawbone belong to the cat, the coon, or the ground hog? The interest in the subject grows with the ability to answer such questions.

The skulls of the smaller quadrupeds can be easily prepared; nearly all of the work can be done with a knife. Skin the head before separating it from the body. (A trial or two will show the advantage in pulling the skin over the head before cutting off the head.) Then dig out the eyes, and with a wire loop or hook, inserted through the occipital foramen, break up the brain and draw it out. After the specimen has been cleaned as well as possible, dust it with arsenic inside and out to cure it. Lay it away until perfectly dry, and then brush away the arsenic to prevent danger in handling.

A horse's skull may be obtained from a fertilizer factory. The head of a sheep, hog, or calf may be obtained of a butcher, and then cleaned. This may be done by boiling in a soap solution and then scraping clean with a knife. If any specimen, when cleaned, is at all offensive, leave it out of

doors, in the weather, to bleach. Alternate rain and sunshine so thoroughly removes grease and other offensive matter, and so whitens the bones that they are no more objectionable to handle than shells and pebbles.

If we succeed in preparing four or five skulls in one year it is a good year's work. Think of how much better this is than nothing! Getting the material ready is the best part of the work; and if teacher and pupils have worked together in this preparation of material, there is not much left to do. While we are all interested in a specimen is the time to study it. After we have a collection, though, we find ourselves using it year after year, only adding a specimen now and then, but the enthusiasm was with the school that helped to make the collection.

With our collection of teeth and skulls we start out to develop a general knowledge of teeth and their adaptation to different modes of life, as exemplified by different animals.

Let us see what we can do with squirrel teeth as a beginning lesson. As materials for study use squirrel skulls and walnuts that have been gnawed into by squirrels.

After the pupils have examined these specimens, a little questioning leads them to express what they have learned, about as follows: A squirrel has two kinds of teeth, front teeth and back teeth, with a gap between. With the front teeth it gnaws into the shell of the walnut, and with the back teeth it chews the kernel.

A leading thought:

Squirrels can do one kind of work well because they have good tools for this work.

Associated thoughts:

The squirrel's front teeth are like chisels.

They are edged tools, or cutting tools.

The chisel is a beveled-edged tool.

An adze, a plane, and scissors are bevel-edged tools.

The squirrel's front teeth may be called cutting teeth, or simply cutters.

The squirrel's back teeth do not cut, but grind. They are grinding teeth, or simply grinders.

*SQUIRREL'S TEETH { FRONT TEETH,—CUTTERS.
BACK TEETH,—GRINDERS.

Cutters and grinders are good names, but in the books we find other names for these two kinds of teeth, and these other names have the same meaning.

SQUIRREL'S TEETH. { FRONT TEETH,—CUTTERS,—
INCISORS.
BACK TEETH,—GRINDERS,—
—MOLARS.

* Blackboard work indicated by capital letters.

Incisors means cutters, or rather in-cutters ; they cut into things.

INCISORS. inCISORS.

SCISSORS. sCISsORS.

The word "scissors" means cutters.

IN-CIS-ORS.

S-CIS-SORS.

Cis means cut.

ChIS-EL.

The same *cis* slightly changed appears in chisel.

MOLA-RS.

Mola means a mill-stone. Molars means grinders. The jaws with their molars make a good mill.

MOL-ARS. MOL. MILL. MEAL.

Mol looks and sounds something like *mill*, and it looks and sounds something like *meal*.

How does the carpenter sharpen his chisel? How does the squirrel sharpen its incisors? Frequently the popular notion comes out that the squirrel gnaws bones to sharpen its teeth. No doubt the squirrel does gnaw bones, and a specimen of bone thus gnawed may be added to the walnut and skull. Perhaps bone is a necessary part of the squirrel's food. Use dulls the chisel and the saw, and, no doubt, gnawing tends to dull the squirrel's incisors. A little examination will show that the bevels of the squirrel's incisors are curved, and that the upper and lower incisors, in turn, sharpen each other. Examine the incisors again to see if all the parts are colored alike, and hard alike. The very hard, reddish brown, front part is called enamel. The softer, white, back part is called dentine.

DENT-INE

DENT-IST

Dent means tooth. Dentine means tooth substance. Dentist means tooth workman. In the squirrel's incisor, does the enamel or the dentine form the cutting edge? Which forms the beveled portion? Has this difference in hardness anything to do with the sharpening of the incisors?

This exercise on squirrel teeth has been given as a development lesson. Much of nature study should be handled in a similar way. Any teacher who understands what he is trying to teach can formulate his own lesson plans.

In case of the squirrel's teeth we have a good first notion of incisors and molars, and of enamel and dentine. As we proceed with the study of other animals' teeth these notions become more and more general, and new notions are introduced and grow. The squirrel's teeth give also a good first notion of the adaptation of teeth to particular kinds of work. Squirrel's incisors are highly specialized.

Compare the cat's teeth with those of the squirrel:

1. As to incisors, in number and form.

2. As to molars, in number and form. (A passing notice of form.)

3. As to gap between.

The gap is occupied by a new kind of teeth, long, sharp, and slightly curved backward. These teeth are called canines. What kind of work does the cat do with her canines? They are deadly weapons—they are for seizing and killing, and then for tearing the flesh. Why has the squirrel no canines? The cat's teeth give a good first notion of canines, and of molars that do not grind, but cut.

Examine the manner in which the cat's lower jaw is articulated to the skull to see what kind of motion it is capable of. The glenoid cavity is a transverse groove, and the condyle which fits into this cavity is cylindrical. Here we have a perfect hinge-joint. The cat's lower jaw can do nothing but move up and down. The jaws work like scissors. The molar teeth cannot grind, they simply cut. They are made to cut. Examine the largest molars of the upper and lower jaws and notice how their sharp ridges shear past each other like scissor blades. These highly specialized teeth are called sectorial teeth. Observe a cat while eating. Notice that the mouth merely opens and shuts. Listen to hear the sectorial teeth cutting the meat. The meat is not ground, or masticated, it is simply cut enough to be swallowed. A cat is a flesh-eater, and has this combination of characters: Canine teeth, sectorial teeth, and mandibular hinge-joint. Examine other skulls for the same combination of characters.

Examine the skull of a coon. We find canines well developed, and a perfect mandibular hinge, but no sectorial teeth. The large molars are tubercular, blunt prominences (cusps) fit into corresponding depressions. These molars cannot grind because they have no lateral, or back-and-forward movement. They cannot cut, because there are no opposing trenchant ridges that shear past each other as in sectorial teeth. The only kind of work left for them to do, is to crush the food, and this they are well adapted to do. What does the coon eat: Clams, crawfishes, mulberries, roasting ears, etc. His diet is mixed, and he is not a true flesh-eater.

Observe a horse while eating, and see how he moves his lower jaw. To do this, press the hand against the horse's lower jaw, while he is grinding his corn. The kind of motion is then perfectly plain. Examine the skull of a horse. Notice the glenoid surfaces and mandibular condyles. What kinds of motion does the articulation permit? An up-and-down motion and a lateral motion. The

very motions that we perceived while observing the horse eating corn. An examination of the horse's teeth shows incisors that bite off the food, and very perfect grinders that masticate it. The lateral motion keeps incisors and molars worn nearly flat. Does the arrangement of the horse's teeth resemble that of the cat's teeth, or the squirrel's teeth? There is a wide gap (the place occupied by the bit) between the canines and the molars. Perhaps your specimen of a horse's skull will have no canines, since they appear late in the horse, and seldom appear in the mare. If so, the resemblance to the arrangement of the squirrel's teeth is more striking. Has the horse any use for canines?

In the squirrel, examine the articulation of the lower jaw bone to the skull. The condylar head has a fore-and-aft extension, and plays upon a glenoid surface that is extended in the same direction, but much wider and longer than the condyle. The squirrel's mandible then, has a back-and-forward movement, as well as up-and-down and side-wise movements. This back-and-forward movement is necessary that the incisors, in turn, overlap each other in the process of sharpening. It may be that the squirrel does all of its grinding by this back-and-forward movement, so that it grinds its food and sharpens its incisors at the same time.

By working the lower jaw, let us study these three kinds of movement in our own case. Which are natural and which is strained?

What kind of work does each of the four animals studied do with its teeth?

The squirrel gnaws and grinds.

The cat kills, tears and bites off, and cuts.

The coon kills, tears and bites off, and crushes; or simply bites off and crushes.

The horse bites off and grinds.

The squirrel eats nuts and buds, plant food.

The horse eats corn and grass, plant food.

The coon eats flesh and fruits, both animal and plant food.

The cat, in the wild state, eats nothing but flesh.

The plant food is ground or crushed.

The animal food is cut or crushed.

We have now a partial knowledge of four types of dentition, and see how much such a knowledge would help in animal classification. Other types will be taken up in another paper.

Let us examine our own teeth to see if we can find incisors, canines, and molars, and tell how many of each kind. Get some little child, five or six years old, to let you look at its teeth. Frequently, in the milk teeth, the canines are so decidedly conical and sharp that we think it no harm

to call them little dog-teeth, and that is what the word canines means.

Child's teeth: Incisors $\frac{1}{2}$, canines $\frac{1}{2}$, molars $\frac{1}{2}$, 20 in all. The child's molars are so well in front of the mouth that they are easily seen. Are they best suited for grinding, cutting, or crushing? He is a little coon.

W. P. SHANNON.

GREENSBURG, IND.

METHOD IN ARITHMETIC.—XVI.

TYPICAL PLANS: MENSURATION.

The class is in the eighth grade, and is studying mensuration and its applications. They have had a series of lessons on various plane figures, for which they have made definitions and been led to discover certain properties.

In this series comes the cylinder, and the teacher is outlining the work he intends to do, and illustrates his thought with a plan for teaching the total area of the figures.

He tries to limit his content or subject-matter. Hence, his first questions center about this thought.

I. The subject-matter of this series of lessons is the cylinder.

1. A cylinder is a solid having two equal parallel circular bases and bounded by a curved surface.

A right cylinder is a solid generated by revolving a rectangle about any side as an axis.

2. Definitions of parts.

a. The bases of a cylinder are the equal parallel faces.

b. The lateral area is the curved surface.

c. The total area is the sum of the bases and the lateral surface.

d. The altitude is the perpendicular distance between the bases.

e. The volume is the solid contents of the cylinder.

3. Special subject-matter for an illustrative lesson.

a. The area of the bases is twice the product of the circumference by one-half the radius of the cylinder.

b. The area of the curved surface is the product of the altitude of the cylinder by the circumference of the base.

c. The total area is the sum of the bases and curved surface.

Or,

The total area is the product of the circumference of the cylinder by the sum of its radius and altitude.

II. Ends sought are effects in the pupils.

1. To give a knowledge of the processes in finding these areas of a cylinder.
2. To excite interest in these processes, not only for the special lesson, but for succeeding lessons.
3. To secure voluntary activity in this line, a ready response to all appeals of the cylinder.

III. Steps in the process of learning these areas.

1. The child must think the individual.
 - a. The form and name of a particular cylinder. This is their "known," since they have had both in their drawing and molding exercises.
 - b. He must think the bases as circles and their areas as found by the same process.
 - c. He must think the curved surface as equal to a rectangle whose base is the cylinder's circumference and whose height is the cylinder's altitude.
 - d. He must think the unity of these two by addition.

This process must be repeated with several particular cylinders.

2. The child must generalize his previous thinking.
 - a. The areas of the bases of all cylinders are found in the same way.
 - b. The curved surfaces of cylinders are all found in the same way.
 - c. The total area is always the sum of the bases and curved surface.
3. He must carefully and repeatedly associate these individuals and his generals.

IV. Basis for the child's procedure.

1. His knowledge of the cylinder as a form, as learned in his constructive work.
2. His knowledge of the circle and the process of finding its area.
3. The knowledge of the rectangle and the process for its area.
4. Some experience and skill in using formulas.

V. Devices to be used in exciting the child's activity toward these facts.

1. An assignment, in which the child is required to draw or construct several cylinders of different sizes, and in which he is directed to study the surfaces of the cylinders in order to find their areas. He may also be instructed to measure the circumferences and the heights. This assignment will incite him to the first step in the process, and perhaps the second and third.
2. The recitation.
 - a. The child reports what he has done with the assignment.

To emphasize it as a requirement and to show where the class must start. Some of the class may have discovered how to find the areas wanted, or some one of them.

- b. The teacher presents a new cylinder, or uses one of theirs. Attention is called to the form of the bases and their number. Well-trained children will quickly see that these areas are circles. It remains to measure the radius and circumference. This use of rule or tape line intensifies interest, and results are soon obtained.

- c. Call attention to the curved surface and ask for suggestions. If no one hints a way of measuring it, roll a piece of paper around the cylinder, just covering it. If a child does this, it may increase the interest in the work. Open the paper and ask its form, and the process for finding its area. Ask for part of cylinder corresponding to the base of the paper. Also the part equaling the height. Measure the paper and cylinder to show the agreement of parts in value.

Ask for way for finding the area of the particular cylinder.

- d. Treat several cylinders in a similar way and ask for a rule for finding these areas.
- e. A single question will call forth the inference as to the value of the total area. These things are used to lead the child to a discovery of the facts in the cylinder's areas and for which he has sufficient data.

- f. Have the children give values to the dimensions of several cylinders and solve the problems. This exercise permanently associates the individuals and the generals, completes the apperceptive process.

This form of procedure assumes a course in mensuration.

Pupils have had drawing, moulding, and construction of forms, and are familiar with scales, dimensions, and names of the common figures. They have worked out the definitions for many figures and have had experience in observing and making inferences.

Study and earnestness in the teacher will secure good results from the children, and much of the difficulty of geometry will be removed.

S. E. HARWOOD.

CARBONDALE, ILL.

PRIMARY WORK.

MISS LAURA FRAZEE, Supervisor Primary Grades,
Terre Haute Schools.

SOCIOLOGY.

Emerson says,

"All are needed by each one,
Nothing is fair or good alone."

And he says with reference to life—

"All must recognize the fact of inter-dependence,
It stares us in the face as a fact undisputable,
We must yield to it because it is true."

Some recognize this truth in a fuller degree than others, and are, therefore, possessed of that which places them in more complete harmony with everything in life.

Life is one long, learning time, in which we are forever learning coordination and cooperation. Shall we be satisfied only with the A-B-C of life activity, and shut ourselves away from anything more far-reaching? It does not lessen the fact—only lessens our view—decreases our horizon.

Man is a social being, and needs to rub up against his fellows, to send some of the corners of conceit flying, as well as to develop the good traits of compassion and generosity in his character.

Man needs to *know* man in his environment, in his various phases of activity to live in a world-harmony with him. The study of what men are doing *now* we may call sociology, of what men *have done*, history. The former is but one phase of the latter. It seems to me that sociologic interests touch the life of the little child—yes, and the big child, at every turn.

The child, itself, forms a part of a sociologic whole, and with itself, the center ever-increasing circles are constantly being drawn as life progresses.

Shall we begin by placing limitations, and say that the first circle encompasses family life?

The child is brought into direct, close contact with the members of the family— with the mother, father, sisters, brothers.

Who will say what the child thinks as it reads the face of its mother, or notes the looks and actions of its father? What do the various home activities bring as factors in his development?

These are questions which make us think that even in the beginning of the child's life, the beginning of sociologic study is also to be found.

The individual life, the life of the whole family affects the child's life—it forms a part of his environment now, and for all time. This family life prepares him for the larger life with which he comes in contact, at a later period, in the neigh-

borhood plays, in the kindergarten, and in the school.

When the little toddler "runs-away," or seeks his playmates in the next dooryard, he is following that instinct for companionship, for social life which cannot be repressed.

Do you think the child gains nothing in his backyard plays, in his little excursions into the big world outside?

The life of the family, of the neighborhood, of the kindergarten, and of the school—these are the beginnings of sociologic studies, and the preparations for judgment in the after-study of history.

His whole life is affected by the measure of judgment of person, and peoples, and conditions, which grow to be a part of himself in these early experiences of his youth.

Every human being with whom he comes in contact is a new study, a new revelation to him; the looks, the manner, the dress, all lead him to make childish inferences. Every human being who is permitted to come near and into the life of this child becomes its god, its ideal. The adult is a necessary factor in the environment of child-life, but not the only factor. When the child comes to kindergarten a new phase of community life presents itself—*children like himself*,—entering into similar activities and abiding under the same government.

The child learns by experience and inference, in multitudinous ways, that the environment of the *individual* or of the *community* has its influence upon each and upon all. The study of evolution shows us that material environment is a great factor in shaping human life.

Shall we, then, bring the child into a sympathetic relation with his fellows by some particular line of work in the school?

This new phase let us call sociology; and we find the subject-matter lying all about in profusion. All we need to do is to choose that which is best suited to the child's needs.

But, you may ask, what does sociology do for the child? What does sociologic study do for us older children? Why are we so interested in Social Settlements? Simply because,—or so I take it,—because human life is interesting to us as nothing else is, as nothing else can be. All the world's a stage and we are only players.

Sociology does this for the child:

It aids him, first of all, to feel that all phases of life activity are bound up in every other phase, giving him early the knowledge of the law of inter-dependence. This is something! When he has learned the great fact of dependence on others, and the equally great fact that others depend upon

him, he has gained a victory over selfishness, over conceit, over arrogance.

It aids him in the growth of a feeling of respect for others, *whatever their calling*.

It aids in the growth of a proper self-respect.

It aids in the growth of democratic principle, in the nobility of true labor. It dignifies work, and the workman.

The debasing illusion that man works, produces, creates, only in order to preserve his body, in order to secure food, clothing, and shelter, may have to be endured, but should not be diffused and propagated.

In this age of money-getting and money-giving, we need to impress the soulfulness of living; lifting thereby, the growing generation out of sordidness and dullness of existence. Let us give a proper world-view as *we know* it, and thus help some one on to a better than we are able to see ourselves.

The child learns that honor lies only in serving our fellow-men, that we all are servants, one of the other, according to our ability and environment.

Froebel recognized sociology as one of the chief factors in education, as is shown by the dramatic games and activities which he introduces into the *Mother-Play*, the pedagogical book of the kindergarten.

The highest, best phase of kindergarten work does not lie in the gifts and occupations, valuable though they are, but is found in the plays and games.

W. T. Harris says, in his preface to Susan Blow's commentaries of Froebel's *Mother-Play*:

"The child here, in the plays and games, ascends from the world of nature to the world of humanity; from the world of things to the world of self-activity. In the plays and games he becomes conscious of this general, or social-self. He reproduces the activities and occupations of the world, and by so doing he attains a new consciousness of a higher self through the thoughts and motives which he *must have*, in order to *be* in the game what he is to reproduce. These games give to the child the treasures of experience of the race, solving the problems of life. They make him wise without conceit."

What games, what activities are reproduced in the kindergarten? All the activities which touch the child-life at some point; these are the ones chosen, not those foreign to the experience and intelligence of the child.

The child knows something of home life, then take up home life in its various phases. Other activities enter into the preservation of that home life; the gardener, the farmer, miller, baker, milk-

man, grocer, shoemaker, and numerous others; the industries—woolen mills, cotton mills, saw mills, and countless other activities.

All this, and more, reaches the child of the kindergarten. He enters into it with a zest and earnestness which makes teaching a beautiful, holy thing.

By means of gifts, and occupations, and dramatic games, these activities are reproduced in multitudinous ways, and viewed from various standpoints.

In the primary school we are still to hold this strongest point of Froebel's in our sociologic teaching.

We are still to retain the gist—the spirit of it, at least.

Why should we lose entirely the dramatic games if the child's interest is strong enough to retain them?

As long as he loves them and enjoys them, we may know that they are a necessity toward his more perfect development.

Games are a necessity in the primary school, not the game just as played or interpreted in kindergarten, but its life is retained, and this is made richer, fuller and more complete in its expression. The necessity for activity, which is the divine right of childhood, should be met and utilized through the medium of games.

The game itself, i. e., the playing of it is in itself a kind of sociologic lesson. Take the story of the Pilgrims and dramatize it, for instance: A number of children are chosen by some one to make the "Mayflower." At once the making of the boat becomes a sociologic effort—the individual *one* loses himself in the *many*. It is the joining of forces toward a common purpose; and the child gains immeasurably through this united effort. Just study a game from a sociologic standpoint, and ponder upon what you find therein, asking yourself, "What effect has it upon the child? What does it bring to him? How does it help? How does it hinder?"

Here is the opportunity to make the game educational to yourself and to the child. Here is the opportunity to make the transition from kindergarten to school a mere transition, and therefore a gradual growth.

One reason why this subject of sociology is so intensely interesting to children, is because they can bring to it a rich fund of knowledge, gained by actual experience, and by these conversations, these free and easy talks, and stories, and games, we learn the contents of the child-minds, and lead the children to make other and fuller observations.

So in the primary school, we should have conversations, stories, readings, games about the com-

mon activities; dramatizations of the occupations of men and women—construction of railroads, canals, tunnels, bridges, trolleys, etc., in the sand table; lively talks about trades, commerce, manufacture, agriculture, modes of travel and transportation; all such subjects according to the capacity of the child to grasp it.

The same subjects will be presented in the first grade—yes, in the kindergarten—that will be developed and enriched in the fourth. Old subject-matter, but new presentation.

This method of procedure leads to more direct observation, to the "look again" of Jacotot. It leads the child away from the common conceit of "I know it all," or, "I've learned it all," and leads him to recognize the fact that nothing is ever fully grasped, even after repeated lessons or experiences.

Sociologic work overlaps the geographic work and, it seems to me, aids in the clearer understanding of it.

You cannot study the activities of your own town or your own neighborhood without getting some knowledge of the geographical relationships.

You cannot study other peoples, finding comparisons of similarities and differences without studying geography and sociology at one and the same time.

You cannot study "cotton mills" without studying "cotton," which introduces you to climatic conditions and the environments peculiar to plant and animal life of that portion of the earth.

There are not many books which will help you in this sociologic work, and none purely sociologic to place in the hands of the children, though there are a few.

"Aunt Martha's Corner Cupboard," "Normal Second Reader," "Stories of Industry," Vols. I. and II., "Swinton's Fourth Reader," "Calkins' Trades and Occupations," "Ten Boys of Long Ago;" you are all familiar with this list.

These are some of the books particularly rich in the subjects, best adapted to primary children. Just begin with some phase of sociologic interest and let it prove its excellent worth. Sociology grows upon one. You learn to love it, and the children love it too. When once you have begun you scarce know where to leave off, because there are so many lines which you may develop and enjoy.

Employ thy time well if thou meanest to gain leisure, and since thou art not sure of a minute, throw not away an hour.

Experience keeps a dear school, but fools will learn in no other.

LINCOLN'S MERCY.

Lincoln was criticized severely by many because of the number of pardons and respites he granted. Once, alluding to these complaints, he said: "It is a rest to me after a hard day's work if I can find some good excuse for saving a man's life."

Upon pardoning some men sentenced to death, he exclaimed, "Mr. General, there are already too many weeping widows in the United States. For God's sake don't ask me to add to the number, for I won't do it!"

To General Butler, who asked him to pardon a man whom he, himself, had sentenced to be shot: "You? Asking me to pardon some poor fellow? Give me that pen!"

Upon pardoning a boy: "Well, I think the boy can do us more good above ground than under ground."

In one case, where a direct pardon could not be given, Lincoln ordered that the culprit should not be shot until further orders from him. The old father begged him for something more definite. Lincoln replied: "Well, my old friend, if your son never looks on death till further orders from me to shoot him, he will live to be a great deal older than Methuselah!"

These are only a few of the manifold instances of the greatness and tenderness of his heart. Who has not heard the story of the sleeping sentinel? Of the crying babe, whose plaintive wail drew his attention to the poor woman waiting timidly in the crowded corridors for a chance to speak in behalf of her husband, sentenced to be shot,—and of the response that that petition met? Of the young girl, coming alone hundreds of miles to plead for her brother, to whom he said: "My poor girl, you have come here with no governor or senator or member of congress. You seem honest and truthful,—and, I will be whipped,—but I will pardon your brother?" And of that case which, presented to him when he was worn out, and ill, and harrassed by the cares of office, he dismissed with a "No," after hearing that the petitioner had been to the proper officers, only to seek the same petitioner the next morning almost before light, saying that he had not been able to "sleep a wink," and that for his own peace of mind he should have to see if something could not be done!

Ah, the greatness of the man in dealing with the poor and crushed and unfortunate was as pronounced and wonderful as in dealing with the affairs of the nation. But of his kind deeds he never spoke. To do them was enough.

ELEANOR ROOT.

BOSTON, MASS.

PRACTICAL WORK.

MORNING EXERCISES.

No teacher can afford to dispense with morning exercises. This is the only opportunity offered through the day for something that shall be for the entire school. The occasion can be made very pleasant and profitable. It may serve to unify the school work as nothing else can. By all means the teacher should make special preparation for this exercise, and should endeavor to present something which shall serve as an inspiration in the work of the pupils. If the day is dark and cheerless, some bright, hopeful morning lesson may fill the whole day with sunshine. There is such an abundance of material, that the exercise may take on many forms and not fail to do good. Bible readings, Bible stories simply told, music, poetry, patriotic stories, fairy tales, stories in history make good material. The writer recently heard one of the professors in the Indiana State Normal tell in simple language the story of Joseph, at morning exercises. Every one had heard it time and again, but every one was delighted to hear it told again, and many students and teachers expressed their pleasure and appreciation of a week spent on the old story of Joseph and its applications. The Young People's Reading Circle Books have furnished some excellent material for these exercises. *The Boyhood of Lincoln* by Hezekiah Butterworth, in last year's course, is full of beautiful stories. "The Shepherd Dog," a story of fidelity, "Chink, Chink, Chink," or "The Stone-cold Heart," a story of the poor woodman who exchanged his heart for money, and many other wholesome tales may be found in this book.

"There was once a man who had two little ponies. They were pretty creatures, and just alike. He sold one of them to a hard-hearted man, who kicked him and beat him; and the pony said: 'The man is my enemy. I will be his, and become a cunning and vicious horse.' So the pony became cunning and vicious, and threw his rider and crippled him, and grew spavined and old, and every one was glad when he was dead.

"The man sold the other pony to a noble-hearted man, who treated him kindly and well. Then the pony said: 'I am proud of my master. I will become a good horse, and my master's will shall be my own.' Like the master became the horse. He became strong and beautiful. They chose him for the battle, and he went through the wars and the master slept by his side. He bore his master at last in a triumphal procession, and all the people were sorry when he came to die."

"The purpose of education," Jasper used to repeat over and over to his friends in this sunny island of the prairie sea, "is not to teach the young how to make money or get wealth by a cunning brain, but to live for the soul. The soul's best interests are in life's highest interest, and there is no poverty in the world, that is like spiritual poverty. In the periods of poetry a nation is great; and when poetry fails, the birds cease to sing and the flowers to bloom, and divinities go away, and the heart turns to stone."

GEOGRAPHY.*

SECOND YEAR GRADE.

(Based on "Seven Little Sisters.")

I. *Organizing Principle*.—The earth in relation to man's institutions—church, state, society, (polite, industrial), school. This principle shows that there are five directions for the relation to take; e. g.,

1. The facts of the earth and church.
2. The facts of the earth and state, etc.

The principle also shows that there are four steps to take with each direction of relation; e. g.,

1. Learn the fact of the earth.
2. Learn the fact of church.
3. Endeavor to find the influence of the fact of the earth upon the church.
4. Endeavor to find the influence of the fact of church upon the earth.

FIRST LESSON.

I. Tell briefly the story of "The Ball Itself," and as the story proceeds (by aid of the pupils partly), classify the facts—

1. Earth.

Form—trees—wild beasts—grass
fishes—meadows—cattle—floats
in blue air (show with soap bubble)
—surrounded by clouds—Size—
forests—ponds—water-lilies—
hills—desert—hot zone—cold
zone—ice—snow drifts, etc.

2. Man.

Men—women—children—boat
—sledge.

(The foregoing may occupy three or four days.)

SECOND LESSON.

I. *Preparation of Teacher*—

1. Deciding the amount of text. (From first to "When night comes," p. 32.)
2. Decide whether both earth and man's institutions are mentioned—the separate points under each—their order, their classification, etc.
3. Becoming familiar with the language.

II. *Presentation*—

1. The part selected given orally.
2. Facts of the earth.
 - a. Warm, flowers, birds.
 - b. Long, soft grass, snakes.
 - c. Coconut, monkey, parrots.
3. Facts of man's institutions—
 - a. Little brown baby.

* Leaflets 4 and 5 issued by the Department of Psychology, Indiana State Normal School.

- b. Her physical characteristics.
 - (a)
 - (b)
- c. Her clothing.
 - (a)
 - (b)
- d. Social habits.
 - (a) Manner of arranging her hair.
 - (b)
- e. Actions.
 - (a)
 - (b)
 - (c)
 - (d)
- f. Social utensils,
 - (a) Coconut cup.
- 4. Relation of facts of earth to a, b, c, d, e, f. (As cause.)
- 5. Relation of a, b, c, d, e, f, to facts of earth. (As cause.)
- 6. Comparison of facts of earth, and facts of man's institutions with pupil's home surroundings.

III. Suggestions for preparation—

1. Examine picture.
2. Have pupils identify each object in so far as possible.
3. Show the objects.
4. Show pictures of golden snakes.
5. Convey the idea that most snakes are harmless, show that they do good, cultivate better feeling toward snakes, spiders, worms, bugs, etc.
6. Are the two stones sand stone?
7. Have pupils draw top of tree, the birds, etc., of picture.
8. Also form of the object in some cases.
9. Use for language, number, etc.

THIRD YEAR GRADE.

I. Principle in *child*—self-activity, self-determination.

II. Principle in *subject*—The facts of the earth in relation to man's institutions.

1. The relations are two—e. g. The facts of the earth viewed as *cause* modifying man's institutions; The facts of the earth viewed as *effect*, i. e., as modified by man's institutions.
2. The institutions are *five*—church, state, society (including polite society and home life), industry, education.

III. The *five lines* of inquiry—1. Facts of earth *modifying* the religion of a people; and *modified by* the religion of the people. 2. The facts of the earth *modifying* the form of government of the peo-

ple; and *modified by* the ideas of government. 3. The facts of the earth *modifying*, etc.

IV. The four steps in each line.

1. The investigation of the facts of the earth.
2. The investigation of the facts of man's institutions.
3. The study of the facts of the earth as *modifying* man's institutions.
4. The study of man's institutions as *modifying* the facts of the earth.

V. The work presupposed—

1. In First Year Grade—
 - a. The examination of some forty facts of the earth, as the amount of rainfall; change in the length of shadow cast by sun; shape of snow, etc.
 - b. The story of *Kablu*. (In "Ten Boys On the Road from Long Ago to Now.")
2. In Second Year Grade—
 - a. The study of the material in "Seven Little Sisters," according to Principles I, II, III, and IV.
 - b. The eighteen lessons each on geology; physics; chemistry; botany; zoology; physiology.
 - c. The story of *Darius*. (In "Ten Boys On the Road from Long Ago to Now.")

VI. *Subject-matter* for Third Year Grade. The material presented in "Each and All," or how the Seven Little Sisters *Prove* their Sisterhood.

VII. Preparation of teacher.

1. Deciding amount of story to be taken for the first lesson; e. g., from first to "You know the seals live," on p. 2.
2. Deciding the topics—
 - a. The *surroundings* of Agoonack—long sunshine, long darkness, cold, seals, bears, etc.
 - b. The *accompaniments of spring* in her cold country—return of sun, etc.
 - c. The *accompaniments of spring* in our region.
3. Arranging the facts mentioned into—
 - a. Facts of the earth.
 - (1) Classifying these.
 - b. Facts of man's institutions.
 - (1) Classifying these.
4. Becoming familiar with the language.

VIII. Suggestions for presentation—

1. Why "*each and all*" is a good expression.
2. The story given orally.
3. Direction of country shown.

4. Distance indicated.
5. Views of country.
6. Reference to Esquimaux village in World's Fair—pictures of the village shown.
7. Classification of things mentioned into *facts of earth* and *facts of man* with the subdivisions under each.
8. Place picture on board.
9. Have class draw picture for *busy-work*, using the principles of drawing they have learned.
10. Find if practicable the meanings of *Esquimaux*, *Agoonack*, *April*, *Puseymut*.
11. Show the objects mentioned as fully as practicable.
12. Use the words in spelling, the thoughts and language, in language work, etc.
13. Begin to show of seal—what it eats and wears, what kind of house it builds, so as to fix in the children *the habit of thinking of each animal in this way*, and so as to give a basis for comparing themselves, Agoonack and animals on these points.
14. Emphasize the influence of *facts of the earth* upon man, and *the facts of man's institutions* upon earth.
15. Show the dependence of our region upon Agoonack's region, and her dependence upon us, etc.

READING.*

FIRST YEAR GRADE.

1. Words as wholes standing for objects (meaning).
2. Words as forms standing for sound.
 - a. For the sound as a whole.
 - b. For the separate sounds.

(The principle of the work on sound is—The analogy of form and sound, i. e., the pronunciation of a word should be determined by its structure.
3. Words in connected sentences. (Introducing the idea that the meaning of words is somewhat determined by their connection.)

SECOND YEAR GRADE.

1. The idea that every selection involves a speaker (sometimes two or more—yet all summed up in one, the author) and a hearer or hearers.
2. The conferring upon the pupils of the power to take the place of the speaker and express orally

in good connected language of their own the thought of the lesson as a whole.

- a. Of the power to analyze the incident or story into its parts.
 - b. Of the power to give the main thought.
 - c. Of the power to tell the author's purpose. (Speaker's purpose.)
3. The conferring of the power to take the place of the speaker and express in writing the thought of the lesson as a whole. (This exercise to be given only occasionally.)
 4. The conferring of power to see the relation of the language to the main thought and to the purpose. (In this connection the meaning of new words is to be worked out.)
 5. (The relation of this to the main thought and purpose.) Oral reading.
 6. Supplementary reading—sight reading.

THIRD YEAR GRADE.

1. The distinction of purpose into those of knowledge, feeling and action (willing).
 2. Points one to six of Second Year Grade.
- Illustration of points one and two as given under Second Year Grade with the Lesson on page 27, of the Indiana Third Reader.

Pupil: There are four speakers, the author, John, Nell and Fan; but the words of John, Nell and Fan help to make up the author's words.

Once upon a time there was a woman who had four children, and they were all little, one was a babe. One morning little John said to his mother that he loved her, and then forgetting that there was work to do, he put on his cap and went to the garden swing, leaving his mother to bring the wood.

Little John was hardly gone before rosy Nell came to her mother and not only told her that she loved her but said that she loved more than any one's tongue could tell. Then instead of acting as if she loved her mother, she teased and pouted until fully noon, so that her mother rejoiced when she went away to play.

Then came in little Fan and said, "I love you, mother, I am glad there is no school to-day, and I am going to help you all I can." What did little Fan do? She rocked the babe till it fell asleep. Then she took the broom and swept and dusted. All this she did stepping softly. She was busy, happy and cheerful all day, and was as helpful as a child could be.

At night as these three little children were going to bed each one said again, "I love you mother." What helped the mother to tell which one loved her best?

a. Analysis of incident.

- (1) The words (one set) and acts (three) of Little John.
- (2) The words (two sets) and acts (two) of rosy Nell.
- (3) The words (three sets) and acts (five) of little Fan.
- (4) The words at night.

* Leaflet No. 10, issued by the Department of Psychology, Indiana State Normal School.

- b. Main thought: Love is shown better by help and cheerful disposition than by words.

FOURTH YEAR GRADE.

Points same as for Third Year Grade.

HYGIENE OF SCHOOL ARCHITECTURE.

The subject of School Architecture begins with the externals of the building—the location of the school house. All the conditions necessary for a healthy dwelling house are requisite in a greater degree for a school house, since in the latter there is likely to be a collection of persons, some in not the best of health, in a more limited space.

The site of the school building should, of course, be chosen with great care. The ground must consist of soil free from all foreign admixtures and be pervious to water and air. There is not only danger in the exhalations from a soil impregnated in great degree with organic materials, but, of course, the water is likely to be polluted. Care also should be taken that the best of water can be procured, and that it should not be too great a distance from the school building. By careful observation of the ground, it is not difficult to determine almost to a certainty where the well can be sunk to obtain plenty of good water. After the well is located, great care should be taken to keep the water in good condition. In sandy or gravelly countries the tube or driven-wells have some decided advantages.

The soil on the site for the building should be natural; that is, it must not have been worked over by man. In large cities, if there has been any refuse collected on the site of the proposed building, it should all be removed, for it will contaminate the atmosphere, and to a great extent render the water in the wells impure. The best soils upon which to place the building are gravel, sand, sandy clay, and marl containing lime and dolomite. The larger amount of sand, and the less of clay the soil contains, the better are the conditions. The more clayey the soil, the more it should be rejected as building ground, on account of its coldness and moisture. If one is compelled to choose moist ground it should be well under-drained. The ground should be elevated, and very nearly level. If there is a slight slope it facilitates drainage. There must not be a large amount of ground-water. The elevation of the ground gives facility in lighting the building, but it should not be placed on such an elevation that it will cause hill-climbing, and expose the building to the bleak wind.

The surroundings should be carefully studied in relation to the school building. They should be

free, furnishing abundance of light and air. Hence, a neighborhood of high buildings must be avoided. The reflected light from the walls of the neighboring buildings is likely to be injurious. Likewise, the locality must be removed from industries that are noisy, or that cause injurious exhalations; from markets, hotels, barracks, etc. In the country, care should be taken to avoid location near swamps, ponds, or standing water in the neighborhood. Other things being equal the location should be central. In towns or cities the conditions are often such that the building cannot be placed in the center of the district.

The size of the ground depends upon the school, whether high or elementary. In determining the size of the ground, the possibility of enlarging the buildings, and place for a playground or an athletic field should be considered. For each pupil three square metres are necessary to meet all demands for play. For a country school, an acre of land is very desirable. Professor Whitford says, "With an acre of land, the preferable form for the site is rectangular, having sixteen rods front and ten rods deep; and with a half acre, eight rods in front and ten rods deep." It would be very desirable to provide ground for a school garden if we could get our teachers to take an interest in such a matter and give it an intelligent oversight. "No school grounds," says Gardner, "are complete without a sheltering porch or pavilion under which the scholars can sit when the sun or rain prevents their being actually out from under cover and on the ground. Porches attached to the main building serve something the same purpose, but cannot always be had without obstructing the light of the schoolroom or causing other inconveniences." In free athletic grounds, trees at a sufficient distance from the school house will serve as a protection against the sun. Chestnuts, lindens and elms are best.

The placing of the building in relation to the points of the compass is a matter of great importance to be considered before the lot is located and in planning the school building. The two main points to be considered in planning any school building are, from what direction are the schoolrooms to receive their light, and where shall the playground be located. We want the sunshine to come on to the playground, but we do not want it to come directly into the schoolroom. When the building is to have several rooms, it is a bad plan to have them on all sides of the building, for in that case, some of the rooms will be badly lighted. This will be discussed at length under the subject of lighting of school buildings.

There should not be any hesitation to place the building out of line of a public highway, if it is

necessary, in order to have the sun's direct rays where they are needed, and to prevent them where they are not wanted.

In building a great many of our school buildings there has been too little attention paid to the construction of the foundation. The trenches should be dug very deep. The foundation walls should be laid in cement mortar throughout, and if built of stone, should have the best face outside and neatly pointed. The trenches should have an extra width so this could be done. The extra space of these trenches should be filled up with gravel. By this means, the cellar of the building will be doubly protected against dampness. Not only is the appearance of the ground-water above the cellar floor prevented by the drains beneath the wall, which collect and convey it away as fast as it rises, but the moisture, which in rainy weather trickles through the sides of the trenches and quickly penetrates walls built close against them, is intercepted by the shield of loose gravel, through which it descends and is carried off safely by the drain beneath the footings. The smooth outer surface of the wall facilitates this descent, and, there being no projections to retain water anywhere, the masonry soon dries. Where the outer side is, on the contrary, left rough with the joints unpointed, every projecting stone and every unfilled crevice catches a part of the water which trickles down by it, and conducts it to the interior, causing incurable dampness. These few precautions, which cost almost nothing, when applied at the right time, are of great importance to the future usefulness of the building.

The bottom of the basement should be at least three or four feet above the average level of the ground-water. This part of the building should be of the best construction, for it interrupts the influences that are harmful to health. The floor should be laid with from four to six inches of good concrete, thoroughly rammed, and plastered with hot coal tar and asphalt. By this means the dampness and other harmful influences will be intercepted. In making this kind of a floor there are so many opportunities for cheating, that it should never be left to a contractor, but should be constructed of the best material and done by day labor. The basement should be of good height, well lighted and ventilated, and should not contain the water-closets.

Of late years, many writers have called attention to the ill results upon the health of pupils, especially girls, of being compelled to climb the flight of stairs in too lofty school buildings. Stairways, if properly built, are not injurious to most healthy persons. It is not for the healthy person that the plans of the school buildings should be designed.

The fact exists that a great many of our girls and even some of our boys are not in good health. Since those conditions exist, we should not, as a rule, build the school houses high. A building of two stories is high enough for school purposes.

The building should be made as nearly fireproof as possible. It would be better to have the building proof against fire than to spend so much money on external finish. A pleasing exterior is desirable, but the exterior decoration should be entirely subservient to that which is essential within the building. After the interior is well equipped, then, if there are any funds left, they can be used for exterior ornamentation. If the entrance can be placed upon the sheltered and sunny side of the house, it will be more pleasant and comfortable for the children. If there are more than three steps to the entrance, it should have a hand railing on each side; if there are not more than three steps, they may lead to the platform from the three sides. There should be a sheltering porch at the entrance to protect the children from the hot sun and rain on entering the building. The outer doors to the entrance should be of ample width and should always swing outward, as the law provides.

JOHN A. SHAFER.

(To be continued.)

WHAT OF MUSIC?—IS IT A NECESSITY?

One needs to consider very carefully before answering the question, "Is music a necessity?" Whence comes music? What is its mission? Is the world and its struggling masses better to-day than it was a thousand years ago, when music as an art was unknown? Has the human race shown clearly that music was and is necessary to its proper development? Is there not some other art or science that would fulfill all requirements that music has seemed to supply? Has the universal love for music been developed in the last few centuries, or has it always been a fundamental part of man's nature? Was there a beginning?—and will there ever be an end to music?

We gain somewhat definite ideas in regard to the musical status of the pre-historic races when we are able to say how many and what kinds of musical instruments were in use. Investigation shows that instruments of percussion—the drum, cymbals, etc., were the first evidences of musical taste, followed later, as the nations became more civilized, by the pipe, or flute, horn, trumpet, etc. The drum was often found alone—indicating the development of rhythmical feeling—but the pipe is only found where the drum also has been used. The third stage of development is indicated by the

lyre—by which is meant, also, harp, lute, guitar, and violin. The drum, alone, was known to the Australians, Esquimaux, Siberian tribes, and until a very recent date, the Laplanders—showing the first stage of musical development. Among the Malays in South American tribes the pipe first appears, and in no instance is the drum found wanting. This is also true of the North American Indians, representing the second stage of development, when the desire for more than rhythm seems to awaken. The lyre first appears with the Dyaks of Borneo, the Finns, Tartars, Cossacks, Turcomans and Hindus, with its never-failing complements, the drum and pipe. The drum has long been known as the instrument of ritual among savage nations. It has been known to disappear in certain tribes, but the pipe or lyre has never been dropped, entirely, by a nation or tribe once using them.

The fact that the organ, made up entirely of pipes, should reach its full development before the piano, which belongs to the lyre family, and the growth of the orchestra, which in the sixteenth century consisted of twelve wind and percussion instruments and two stringed instruments, and to-day numbers over one-half stringed instruments, would go to show that the order of development is still the same: from the drum to the pipe, and thence to the lyre. Or, from rhythm to melody, and from melody to combinations of sound—harmony.

The drum was to the Indian-brave all instruments in one; the flute was called an instrument of love; the lyre represents the dawning of musical intelligence of the higher type, and includes rhythm and melody. The Egyptians and Assyrians used to have large companies of players—even as high as six hundred—and the harp was their favorite instrument. (It is recorded that they liked very high notes, and employed many women and children to sing, who pinched their throats in order to give the high notes with a proper degree of shrillness.) Many illustrations of the devotion of the Greeks to music and poetry might be given. Pythagoras held that the sense of hearing exerted more influence over the heart than any other, and should be used to convey beautiful impressions to the soul, through music. Plato taught that gymnastics for the body and music for the mind, to develop symmetry and grace, were the only essential things in education. (Reflection will show that of late years much stress has been laid upon the teaching of these two subjects. Is it that the Greek idea of education is coming to be of weight?)

It is said that singing began in a war-whoop, given at intervals by the Samoans, as they played

their flutes. Certain it is, that the scale developed slowly, and a five-note scale was no novelty to the Assyrians, Egyptians, Hindus, Greeks, and Chinese—the latter people using the five-note scale to-day, and belonging still to the pipe stage of musical development.

The new music of the world was born of sorrow and fear, in the seclusion of the catacombs at dead of night. The early Christians dared not sing, but unconsciously their responsive reading became responsive intoning, and at times their fervor was so great that the preacher would be interrupted with a "hozanna," half spoken, half sung. During the second century they worshiped more openly, and the need of song was so great that choirs were organized, and singing-schools conducted. St. Ambrose and Pope Gregory did much for the development of music and signs, but after the latter's death, nothing was done until the time of Charlemagne. Music-schools were then established where two points of interest seem worthy of note: Clergymen were required to study music; and any boy too poor to pay for instruction was to be taught free of charge. The teachers, as well as pupils, were to have in mind the development of a "round, crisp, healthy voice," and every child was required to study the difficult and indefinite musical notation of that day. Through the constant efforts and supervision of Charlemagne, then, Pope Gregory's music bound the whole of civilized Europe together by the time of his death, and the question, "Is music a necessity?" would have been unanimously answered in the affirmative a thousand years ago. What man needed then he certainly needs now, and since so much was acquired because of the innate love and longing for it under most unfavorable conditions, it is not surprising that when once the door was opened, musical progress kept pace with that in every other line. Music, as we know it, belongs to the Christian era, and practically to the last four centuries. It is that one of the fine arts that especially corresponds to the needs of emotional expression as developed by Christianity. Melody has existed for thousands of years in India, Egypt, Persia, and especially in Greece, but harmony, counterpoint, form, (the intellectual side of the art) are modern. Music has always been regarded as an elevating exercise of the feelings, intellect, and imagination, and an important element of culture; how important, we may not know, because of its subtle, far-reaching effects. The Jewish people regarded music as the divine link between man and his Maker—and who will say otherwise?

From a single tone, with no means of representing it, to a scale of eight tones, with an eleven-line

staff, *things* and *signs* developed side by side. First one line, then three, then four, then eight, then the spaces between the lines, and finally eleven lines with the intervening spaces were necessary to represent the growth of musical ideas from the time of St. Sylvester to that of Guido, a monk of the eleventh century. Music charts were commonly used by Roman musicians, who introduced them into England. King Alfred, himself, was deeply interested in music, and founded a professorship at Oxford. The minstrels were received with much distrust after the first crusade, because they did not sing hymns, but they continued to sing from pure love of singing until in the course of years they were looked upon as the most important of all the rovers that traveled the roads of the country in great crowds. It is to the minstrels that we owe the dissemination of the songs of that day among the people, and also the introduction of the violin. Did they know aught of the theory of music as it then was? Not they! Their mission was to sing, and to inspire others to do likewise. Rote-singing, was it not? A precedent of such ancient origin deserves our careful consideration and respect. While we may not be able to pay our taxes with a song at the city gates, as did the minstrels, yet we may emulate their example by singing the songs of the people in a happy, cheerful spirit when occasion demands.

The Troubadours of Southern France brought into their songs a loftier, nobler sentiment embodying Christian chivalry, that gave them a powerful influence. And, right here, do you notice that the history of the civilized world may be clearly read in the development of music? Sculpture came to its perfection 500 B. C. or thereabouts; architecture about 1200 to 1300 A. D., and even poetry is said to have reached a point of perfection in Shakespeare's productions not likely to be surpassed. But music, like civilization, has been continually progressive.

Certainly there has existed a universal need for music, developing strength with years, until its language and influence is not only known and felt in every clime, but highly appreciated as well. It is not an art whose best gifts are reserved for the more fortunate in life, but all may enjoy its beautiful pictures and sweet, ennobling influence. The most ignorant child feels the beauty of a simple melody—and what more can the inspiring strains of a grand oratorio do for him who is able to understand it, as the child understands the simple melody? The general content of music is emotion, Mathews says, and its remarkable power lies in the sense of hearing to which it appeals, and to the element of time. There is great power for good in instrumental music alone, but more

people know and feel the full power of music only when they, too, have some small part in making it—and as more people are able to sing than to play on an instrument, it is vocal music that we have to deal with in public school work. The question is not as to the necessity of music as a means of developing the child's mind at this time, but as to the ability of teachers to present the subject in such a way that it may fill its rightful place in the child's education.

Ignorance of the subject will cease to be an excuse for its absence from the daily program in the school-room in smaller towns, just as it has in the larger ones, and a teacher whose training and experience as a *teacher* cannot be used in presenting music to her pupils will soon be relegated to that past where the A. B. C's and "Do-we-go-up?—We-do-go-up!" are buried. (Beautiful past! so full of the things we can do without, and so beautiful because of its fullness.)

Whatsoever gives a child self-control; whatsoever gives him the power to think—or mental concentration; whatsoever teaches him self-restraint; whatsoever makes him more considerate of the rights of others; whatsoever helps him to realize that he is a part of one great whole; whatsoever refines and uplifts him—take hold on these things. Whatsoever can do all of these things is a necessity—nay, the *right* of every child in the land, and woe be to him who withholds!

Self-control?—the rhythm side alone of music requires it. Concentration of mind?—a study of tones and their relation to each other requires it, and when three elements of the subject are studied together—tune, time, and notation, it may be truthfully said that no other subject can excel music as a developer of careful, logical thinking. And if by great good fortune combinations of tones may be studied in the more advanced grades, its resemblance to mathematics as a mental drill will be appreciated. Self-restraint?—does not the proper use of the voice as regards quality and power require it? And can two- or three-part music be sung without consideration for others being shown in so many ways that all must see and acknowledge it? Then the fact that he is one of many who are singing the same exercise, and that any mistake on his part would disturb the work of the whole school, certainly gives him the idea sooner or later that true independence is dependence, after all, with self-control, self-restraint, unselfishness, and careful thinking as a basis. What more do we want, when in addition we remember the refining, uplifting power of music?

Well, we want music that is well calculated to do these things for the child, in the first place. We want the material of which music is made as care-

fully written and graded to meet the wants of the growing mind as we have it in literature and other subjects. We want every little exercise to lead to something higher and better, so that in the end a cultivated musical taste is the result. In the second place, we want the formal or technical side of music so well taught that the door may be continually open that leads to a higher appreciation of the masterpieces. Many singers of local repute throughout the state are oftentimes unable to give the pleasure they might because they do not understand the mechanical or technical side of music—in other words, do not read well. It is the business of the public schools to make *music readers* of the children early in the course, else there are benefits untold that may never be grasped.

In reading the announcement made by the publishers of one of the latest courses of music for graded schools, (the *Natural Course in Music* by F. H. Ripley and Thos. Tapper) regarding the aim of its authors in the arrangement and selection of material, I was struck with the timeliness of the statement, "The object of the course is to impart the power to read vocal music." Another sentence that attracted my attention was: "The *Natural Course in Music* has been designed to enable the pupils of our public schools to master technical music thoroughly; to enable them to read music at sight, and to render it well and artistically." Knowing that the last is sometimes the best, and feeling an interest in knowing whether this course in music really embodied anything distinctively new, or whether the old material had been utilized in a better, more liberal way than could be found in any of the dozens of music courses before the public, I have made a somewhat prolonged study of the ideas set forth in the *Natural Course*, and will take occasion to go over the ground briefly in another article. In the meantime, whether by means of the *Natural Course in Music*, or the simplest little "Bird Song," get understanding: which simply means get music, since he who gets music gets many beauties of mind and heart, and with all, a clear understanding of the fact that history—experience—life itself shows that music, the most universal of all the arts, is a necessity to every normal man, woman, or child.

CARRIE B. ADAMS.

TERRE HAUTE, IND.

William M. Evarts was going up once in the elevator at the State Department, which was loaded with applicants for ministerships and consulships. Turning to a friend who accompanied him, Mr. Evarts said: "This is the largest collection for foreign missions that I have seen taken up for some time."

GUIDE TO THE STUDY OF AMERICAN HISTORY.

In no subject, except the natural sciences, has the present century witnessed so great a revolution in methods of study and teaching, as in that of history. Until a generation or so ago, the almost universal practice was to look upon history either as a mere branch of literature, or as a phase of moral science; and where the subject was taught at all in the institutions of higher instruction, it was usually in connection with one or the other of these subjects, and by some person other than a trained historian. Indeed, of trained historians, in the modern sense of men fitted for their work by long and arduous preparation, there were very few, indeed, to be found.

To-day, the point of view is very different. To quote the words of Fustel de Coulanges, an eminent French historian, now unhappily deceased, history is now regarded as "the most difficult of sciences." This same truth is asserted by another author in a more extended form: "The study of history demands most serious work; like mathematics, it involves logic; like language, it demands analysis and fine discrimination of terms; like science, it calls for exact observation; like law, it needs the cool, well-balanced judgment; beyond all these, it requires the highest, fullest use of the sympathetic imagination. In fact, no study is more difficult; none calls more completely on all the mental powers, none affords the mind more generous play."

With this change of view as to the nature of the subject itself, there has naturally come a change in the methods of instruction. History is no longer a subject to be read and enjoyed as literature; it is a science to be studied, and scientific methods of investigation and criticism must be applied. In the universities and colleges this revolution in method has already taken place; and scarcely an institution of even the second or third rank, can now be found in which the new spirit does not animate historical instruction. In the grade and high schools, as is quite natural, the movement has not yet gained so pronounced a hold; and from this arises the emphasis which the Conference on History felt called upon to lay in its report to the Committee of Ten a few years ago, upon the need of more time for this subject, and better methods of instruction. The fruits of that report are already beginning to be apparent. More attention is now paid to this subject in our schools, and better preparation is being demanded of those who aspire to teach it.

Many of our teachers, accordingly, are now asking themselves how and where can they get the

more thorough preparation which is being demanded especially in an aspirant for a high school position in this branch. To leave their work and take a course at some university, which of itself is the best means, is practically impossible for many of the summer schools. University extension courses are one like whose help is in their way, cannot take the place entirely of the careful study and thoughtful treatment running through the whole of the course with the only other alternative. The difficulty of the private study method, however, is evident in most cases—great wealth can make a difference in the question. What has been needed by the college teacher has been some work which would not only tell him how to study, but also where and what to study, and such a work has been wanting.

This need is far as relates to our own country, is well supplied by Manning and Hart's guide to the study of American History.¹ The authors, real college teachers, long been teachers of American history at Harvard University, and have also been greatly interested in the problem of historical teaching in the preparatory and grade schools. Their work is the outcome of their joint experience, and in every way worthy of the instruction it is well known to impart. It is at once a book in method, a bibliography of materials, and a topical analysis of American history to the close of the Civil War, with detailed references to each of the topics analyzed.

For all these features the work is eminently satisfactory. In the portion devoted to method—some of the matters treated are: the educative value of American history; what to memorize; systematic testing; the topical method of instruction; class reports and reviews, etc. "One of the first things to break up a child's mind," say the authors, "is the confidence that it must be selected material to be safe and it must learn to discriminate between accurate and inaccurate books, as well as between accounts written at second or third hand and records of contemporaries of the events which they describe." Again, for the teacher: "The principal danger of the lively student is always that he will read too much and absorb too little. Without some system of brief note-taking and summarizing the subject will quickly disappear." What is said of the continuity of American history is also worth quoting: "No great crises appear dividing American history into separate periods; civilization grew out of the conditions of Europe; colonial institutions expanded out of English insti-

tutions; the Revolution was probably an inevitable result of divergence in the institutions of the two branches of the English stock; the constitution was an adaptation of what the people had learned in the experience of their own colonial and state government; in the Revolution and the trying times which followed it the peaceful revolutions of Jefferson's and Jackson's elections were what might have been expected from the growth of the democratic spirit; the opening up of the West, and the extension of the suffrage, the Civil War was the consummation of long long oppositions to each other."

The bibliography portion of the work occupies one hundred and twelve pages of set print, exclusive of titles in italics referred to in the section devoted to topics and references, which may easily be run down by means of the admirable index with which the book is provided. Here we find a bibliography of each of the history occupying four pages; a list of indexes to public documents taking up a page and a half; a brief list of school and college texts; six or two pages devoted to titles of the larger comprehensive works, such as Bancroft, Fiske, Hildreth, etc.; twenty pages of state and local histories; sixteen pages of bibliographies; twelve pages of titles of original sources for historical purposes; and a number of pages devoted to historical novels, poems, ballads, etc. Nowhere else can so complete and comprehensive a bibliography in American history be found.

The portion of the work, however, which will prove of most help to the "lively student," is that devoted to topics and references, which takes up not quite half of the book, two hundred of the four hundred and seventy-two pages being devoted to this subject. The method which is pursued here is to give first some general plan of American history,—such as the settlement of Maryland, the Conflict with France on the seaboard, the Federal Convention of 1787—followed first with a greater or less number of subdivisions of the topic and finally giving from a half page to three pages of references, by volume and page, to works dealing with the subject. In these references different paragraphs are given to what are called "general" references, such as those of Bancroft's, Schouler's and McMaster's histories; "special" references, being mainly works devoted in some special manner to that topic, and hence dealing with it at greater length; and the "sources" upon which all accounts, both general and special are founded. In most cases a few lines of references to bibliographies are added. It is thus apparent that it is possible for the reader using this guide to go as deeply or as superficially into a subject as he desires; thus meeting the requirements of both the ordinary and the most advanced students.

¹ *Guide to the Study of American History*. By Edward Manning and Albert Russell Hart. Pp. 16. Boston: The Boston Book Concern, 1900.

In conclusion it may be said that this work is the most helpful contribution that has ever been made to the study, and hence to the teaching, of American history. If there exists any subject which a teacher can teach effectively without knowing it himself, that subject is not history. The prime cause of the distaste which so many children experience for history is in most cases to be traced to the lack of knowledge of the subject on the part of their teacher; for the teacher needs to be thoroughly saturated with the subject himself in order to vivify and make real the account of the text for his pupils. It is here that this work will meet with its greatest usefulness; and by many a weary teacher struggling unaided to gain the knowledge which he feels he lacks, it will be welcomed with a sigh of relief.

S. B. HARDING.

BLOOMINGTON, IND.

WRECK OF THE SAN BENITO.

Ho! Workman, at the bottom of the sea!
Hast seen the San Benito speed this way?
Good fourteen fathoms deep, they say—they say,
The heavily beaten ship must be—must be.
Oh, come! men fishers, cast your nets for me—
The fog horn blew; the night was clear; yet they,
Sad Sailors, saw no light—no piteous ray—
Great God! Hark to the breakers' bold, mad glee!
And see! The bar of sand, look far-again,
Away out where the flapping sea gulls whirl;
Some horrid objects cling there—fast aground—
It is the San Benito! broke in twain!
Bleak winds, whence are these stars that flutter,
swirl,
As some wild thing affright goes round and round?

LYDIA LONDON ELLIOTT.

TERRE HAUTE, IND., November, 27, 1896.

DEFECTIVE EDUCATION.

The mobs, the riots, the burnings, the lynchings, perpetrated by the men of the present day, are perpetrated because of their vicious or defective education, when children. We see, and feel, the havoc and the ravage of their tiger-passions, now, when they are full grown; but it was years ago that they were whelped and suckled. And so, too, if we derelict from our duty, in this matter, our children, in their turn, will suffer. If we permit the vulture's eggs to be incubated and hatched, it will then be too late to take care of the lambs.
—*Horace Mann.*

Lost time is never found again, and what we call time enough always proves little enough.

TOWNSHIP INSTITUTE WORK FOR 1896-97.

SIXTH INSTITUTE.

LITERARY INTERPRETATIONS.

1. Present the argument in "The Two Voices."
2. Trace the movement in feeling till victory is reached, giving the argument which achieves the victory.
3. State the theme and point out its literary qualities. Compare with and contrast the preceding.
4. Describe the embodiment. Compare with the two preceding.
5. Point out the esthetic elements in the language. Its chief merit. Compare with the two preceding. Which of the three has the greatest intensity and power? Which has the greater ease and simplicity? Which has most of the intellectual and the least of the sensuous element? Which most of suggestiveness?
6. What other poems treat the same problem of life as "The Two Voices"?

THE TWO VOICES.

I.

Tennyson was in close touch with the thought of his time. His age has been characterized as an age of doubt. It would be more correct, perhaps, to say that it has been an age of earnest search after the truth. The movements in England about the end of the first quarter of the century looking toward the more complete enfranchisement of man, and toward more liberality in religion, found artistic expression in Tennyson. While it is true that he expressed the doubts and questionings of his age, it is also true that with the seer's vision he looked on beyond them, seeing them merely as links in the chain of progress. His greatest poems are peans of victory; a victory sometimes positive as in *In Memoriam*, sometimes achieved in the midst of seeming failure, as in *The Idylls of the King*.

II.

In the early volumes of Tennyson's poetry appeared a number of poems which center around those most fundamental of all enigmas, "What is Life?" and "Is Life Worth Living?" These questions are answered from all points of view. In *St. Simeon Stylites* we have the answer from those who aim to ignore the body; in *The Vision of Sin*, from those who aim to ignore the soul; in *The Palace of Art*, from those who attempt to selfishly isolate themselves in intellectual pleasures. In *The Two Voices* we find the soul in the throes of a great struggle between two forces, one of which affirms and the other of which denies. The poem takes the form of a long running argument between the "I" and the "barren voice," closing with the vanquishing of the "barren voice" and a great inflow of joy because of a "hidden hope." Many readers fail to find pleasure in the poem because

of this argumentative tone. (It would be well for one studying it to read in connection with it *The Ancient Sage*, written in Tennyson's later life. The same problem confronts the mind, but the poetic treatment is quite different.) Mr. Waugh, in his *Life of Tennyson*, has stated the point in this poem, and the "excuse for being" of all such poems in a sentence that deserves to be carefully pondered: "The hope that is born of despair is the strongest, because the most human; and it is in this very arguing down of doubt that the power and the permanence of Tennyson's poetry lies."

III.

It is evident that to master this poem we must see clearly who the parties to the controversy are, and follow them in their reasoning, weighing carefully the effect of their words. We quote at length the admirable analysis made by Tainsh:

Voice. You are so miserable, why not die?

Man. This being of mine is too wonderful to be wantonly destroyed.

Voice. A dragon-fly is more wonderful than you.

Man. Not so; the preeminence of man lies in his intellectual and moral nature.

Voice. You are proud. Let me grant that you are higher than the fly and some other beings. Think you there are not many other beings in the universe higher than you?

Resumes. Moreover, you are but one of many. There would be plenty of men like you left.

Man. No two beings are altogether alike.

Voice. Even so; among millions of shades of difference, will your particular shade be missed?

Man. You cannot know.

"This is the end of the first argument. It might seem weak on the side of man, but it is not so. The strength of the temptation depends upon the truth of those things insinuated by the Voice. The proof of the truth is challenged, and is not produced. It is enough. Even a doubt upon this point would forbid suicide to a noble mind. A new argument commences:—

Voice. You are so miserable and so impotent, 'twere better to die.

Man. Matters may mend. If I die, I lose that chance.

Voice. What are the means of cure?

Man. Not answering directly. If I should die, I should leave beautiful nature, and the knowledge of human progress. These would continue, while I was absent and ignorant.

Voice. But this must happen some day, in any case.

Man. Human progress is unceasing. If I bide my time, I see some of it.

Voice. The progress of man is so slow, so slight, compared with the minute distance of the goal, that thousands of years would not suffice to show you any appreciable advance. How much less will some thirty years avail! Moreover, you cannot watch and see even this fancied progress for want of health of body and calm of mind.

Man. Again changing the argument. Men will call me a coward if I die rather than wait and suffer.

Voice. Much more a coward are you, then, to live; for so you are twice a coward: you fear the pain of life, yet dare not escape, because you fear the scorn of men. Moreover,

does love so bind you to men that you need care for their scorn? Will it disturb your rest? In truth, they will not scorn you; they will forget you.

Man. That men will forget me is small inducement to put myself out of their sight. Rather it provokes me to live and recall the hope I once had of compelling them to remember me by useful and noble deeds on their behalf.

Voice. Such dreams are common to youth. They pass as age advances. They are not worth preserving. Man can not really do anything worth doing, or know anything worth knowing. The end of life is disappointment. Death is the remedy.

Man. That man can do and know is certain; for men have done and known.

Voice. Perhaps; or they thought so. Some men have happy temperaments; from such come happy phantasies.

Man. (Changing the argument once more.) This life is bad. Should I seek death as I am, the next, so entered, may be worse—its suffering deeper and more fixed.

Voice. Ponder the dead man, and tell me do you find evidence of any new life to fear?

Man. You can not prove the dead are dead. It is true that the outward signs imply it. Why, then, do we not hold these signs conclusive? The fact that thus, against all other reasons we doubt, is evidence for the new life. The heart of man forebodes a mystery. He has conceived an eternity. He conceives, too, the ideal, which here he nowhere finds. He sees, dimly, a Divine Father and a Purpose working through the universe. He feels in himself a higher nature struggling with his lower being. These doubts and questionings must have answers somewhere. You cannot answer them. Counter doubts will not do it, for the first doubts would still remain. Thus, by doubts you have assailed me, and by doubts you are foiled.

Voice. (After a pause in the argument.) You had a beginning; you sprang from nothing. Why should you not have an end, and pass to nothing?

Man. You do not show that to begin necessarily implies to end. But, suppose I grant it; I do not know that at birth I began to be. Each being may have many phases of life. I do not remember my last stage of being—the change of state may involve forgetfulness. Moreover,

As here we find in trances, men
Forget the thing that happens, then
Until they fall in trance again:

so, should my next state of being be like my last, I may then remember that last, though forgetting it in this. Or I may have fallen from a higher state of being, and the yearnings after the noble and the beautiful which flit through my mind may be traces of that higher life. Or I may have risen through and from lower forms, and then I might well have forgotten, for even here we forget the days of early immaturity. Or I may have existed as an un bodied essence, and then I must needs be incapable of memory:

For Memory, dealing but with Time,
And he with matter, should she climb
Beyond her own material prime?

Moreover, there do haunt me what seem like reminiscences of a past life, as if what now seems new were not really new, but had been seen or done before.

Voice. The still voice laugh'd. 'I talk,' said he.
'Not with thy dreams! Suffice it thee
Thy pain is a reality.'

Man. Yes, but you have missed your mark, and have not tricked me into death by one-sided falsehoods. No living being ever truly longed for death. It is more life that we want, not death.

"The battle is over, and the man has won the victory upon the ground chosen by the tempting

voice. By the pleas common to all worthy humanity, suicide is irrational, weak, contemptible. The man is victorious, but not the less is he desolate;

I ceased and sat as one forlorn.

But then comes the second voice whispering Christian hopes; and the sight of human love and worship, and the happy glory of nature, bring light and comfort to the desolate heart that, without light and comfort, had battled for the right."

COMPOSITION.

I. PURPOSE.

1. The purpose of composition is :

- a. To furnish the child food for thought adapted to his stage of thinking, and to develop in him the power to think systematically and readily on any object of thought. To fix in him habits of neatness, promptness, accuracy, etc. (For a full discussion of this point, see the articles in the October and November issues of this journal, entitled "The Threefold Purpose of the Language Work.") Composition work may contribute much to character.
- b. To prepare the child for the study of other language subjects and to aid him in these studies. The language studies are all related as shown in the discussion of the work last month. We should not lose sight of this fact. Every language study should be made to contribute to the study of every other language study.
- c. To give the child power of expressing his thought in correct, clear, energetic, elegant English. This is the immediate purpose of composition work. The teacher should never lose sight of this end. It is a fact much to be lamented, that even graduates of our best high schools are not able to write a short paper of printable English. Our public schools would do much for children if they could bring them out at the close of their school course with the ability to write a short paper, neat in form, properly spelled, capitalized, punctuated, and paragraphed.

NOTE.—A fundamental error has been made here, in that students have been asked to express their thoughts when they had none to express. It is a common error for teachers to ask their children to write essays on such subjects as "Vir-

tue," "Patience," "Industry," etc., when the children know practically nothing about such subjects. It cannot be too strongly emphasized that thought development must precede expression, and that there can be no good, clear writing without good, clear thinking.

The thought expressed in this note is of the utmost importance. In my judgment, it points out the weakest point in the composition work as it has been done in our public schools. Language must be spontaneous, and largely unconscious, and perfectly natural. The mind of the child must be intent upon the thought, and he must have a desire to express it and a motive in expressing it, if he ever does any good composition work. Much time should be spent in the institute on this topic. If the reader has access to the author's little book entitled, *Language for the Grades*, he will find the entire subject of composition worked out there from the third grade on. Much stress is put upon this point of furnishing children materials and motives for writing. A discussion of the topic here would make this paper much too long.

II. STEPS.

Discourse in the process of construction, on the basis of the way it deals with its object of thought, divides itself into:

- a. Description.
- b. Narration.
- c. Exposition.
- d. Argumentation. Hence, there is a line of:

1. Descriptive work.
2. Narration work.
3. Exposition work.
4. Argumentation work.

It seems to the writer that the outline is not quite accurate in its statement of the basis of the discourse processes as given above. The kind of idea treated separates description and narration, on the one hand from exposition and argumentation on the other. Description and narration always deal with particular ideas. Exposition and argumentation always treat general ideas. The basis stated in the outline—"the way it deals with its object"—separates description from narration, and exposition from argumentation.

III.

1. Nature of.

- a. Deals with the individual object as co-existent or fixed.

(1) By means of attributes.

- (a) Attributes of relation.
 - 1' Purpose and means.
 - 2' Cause and effect.
 - 3' Time and place.

(b) Inherent attributes.

- 1.' Form.
- 2.' Size.
- 3.' Resistance.
- 4.' Color.
- 5.' Sound.
- 6.' Odor.
- 7.' Taste.

(2) By means of parts.

(a) Attributes of each part as of the whole.

(Illustrate clearly the nature of logical description from the study of the above. Take some common object; e. g., an apple, and work it out according to the outline.)

J. B. WISELY.

GUIZOT'S HISTORY OF CIVILIZATION.

(Lectures IX, X, XI, pp. 241-314.)

LECTURE IX.

OF MONARCHY.

1. Primitive elements of European social life. These reduced to what?
2. Monarchy.
 - a. Universality of. Illustrate. Is this universality attributable to force?
 - b. Flexibility of. Illustrate.
 - c. The meaning of. "The personification of national sovereignty." Explain. Within what limits can nationality be personified in royalty?
 - d. The legitimacy of. Explain.
 - e. The permanent influence and presence of.
 - f. Variety of, in European life.
 1. Elective.
 2. Hereditary.
 3. Religious.
 4. Barbarian.
 5. Imperial.
 6. Feudal.
- Where was each dominant?
Which was the Saxon kingdom? Theodories? Pippin's? Charlemagne's?
3. What was the theory of the feudal monarchy? Did the facts sustain the theory?
4. Character of European monarchy in the twelfth century—the use of a public power looked to for justice. How was it the chief conservator of the public peace?

LECTURE X.

UNSUCCESSFUL ATTEMPTS AT THE UNIFICATION OF SOCIETY.

1. Explain how certain early social elements in European life have been retained.
2. Attempts at political organization from the twelfth to the sixteenth century.
 - a. The theocratic attempt. Obstacles preventing.
 - b. Attempt of local republics.
 1. Explain how the free towns became the dominant character of Italian life, the feudal system subordinate.
 2. Nature of Italian Republics. Influence on human genius and energy; on popular depression; on foreign aggressions.
 3. Compare Italian republics with those of Greece.
 4. Attempt at municipal republicanism in South France. In other places.
 - c. The monarchical attempt at unification.

Significance of the States General in France; of the Cortes in Spain; of the Parliament in England.

LECTURE XI.

THE RISE OF CENTRALIZED GOVERNMENT.

1. The distinguishing marks of modern history.
 - a. Theories as to where modern history begins.
 1. At the discovery of America, 1492.
 2. At the fall of Constantinople, 1453.
 3. At the invasion of Italy by Charles VIII, 1494.
 4. At the beginning of Luther's Reformation, 1517.
 5. At the rise of Frederick the Great, 1742.
 - b. Notable inventions marking the change from mediæval to modern history.

Mariner's compass; gunpowder; printing.
2. The beginning of national history in France marks the exit of feudalism.
3. Trace the acts and reigns tending to establish French absolutism; note the influences tending to the rise of a strong monarchy in England.

Condition of Germany in this period. Influence of the Church and Church Councils.

Instead of the general discussion on the *History of Civilization*, this month, we present some admirable lists of questions on Chapters IX, X, and XI, handed us by a friend. These questions throw out in relief the leading ideas in Guizot's treatment:

CHAPTER IX.

1. What part has monarchy played in the organization of the European States (a), (b)—In Asia, America, Africa—Its adaptability. pp. 241-243.
2. Show that the prevalence of monarchy is due, not to force, but to a moral cause—Its flexibility. pp. 243-4.
3. If the essential principle of monarchy is not the will of an individual, what is it?—Sovereignty *de facto*, and *de jure*—Argue. pp. 245-6.
4. In what qualified way may monarchy be considered the personification of legitimate sovereignty? p. 246.
5. What view of the monarchy is held by the theocratists, the jurists, and by monarchy itself—Account for this (a), (b), (c)—Historical intimacy of the two ideas. pp. 247-249.
6. What two opposite junctures favorable for monarchy—Why? pp. 249-250.
7. What peculiarity of European monarchy—Characteristics of the barbarian monarchy? (a), (b), (c). pp. 250-252.
8. What analogy between the monarchy of the Roman Empire, and France under Napoleon? pp. 252-253.
9. How and when did the imperial monarchy become a religious monarchy—Purport of the extracts from the canons of the Council of Toledo (a), (b), (c), (d)—What coordinate power? pp. 253-255.
10. Distribute the three kinds of monarchy among the European States from the 5th to the 7th century. (a), (b), (c), (d). pp. 255-256.
11. What change in the monarchy from the Merovingians to the Carolingians (a), (b)—Charlemagne's day-dream—Louis le Debonnaire. pp. 256-257.
12. State the theory of feudal monarchy in the 10th and 11th centuries—The facts. p. 258.

13. What change in the monarchy at the accession of Louis le Gros [12th century]—Title negatively (a), (b), (c)—What new element—Explain. pp. 258-260.
14. What varying titles has modern monarchy set forth—Its real title to preponderating influence. pp. 261-262.

CHAPTER X.

1. Are there any survivals of the old social elements in modern Europe? (a), (b). p. 263.
2. What, in general, may be said of the futile attempts at political coordination from the 12th to 16th century? (a), (b). p. 264.
3. What two kinds of attempts at political organization from 12th to 16th century—Character? p. 265.
4. What obstacle in the way of a theocratic organization arising from the nature of Christianity? p. 267.
5. How were the feudal nobility a formidable obstacle in the way of a theocratic organization? p. 268.
6. Why was the theocratical organization obstructed by the celibacy of the clergy—By their own dissensions? pp. 269-270.
7. How long was this attempt in culminating—What two blunders did Gregory VII. make? pp. 270-272.
8. What reaction against the church (a) of the people (b) sovereigns, during the 13th century? p. 272.
9. How account for the springing up of the republican system in Italy sooner than elsewhere? (a), (b), (c)—Superiority of Italian cities. pp. 273-276.
10. What two facts, seemingly contradictory, in the history of the Italian republics from 11th to 15th century—What evil from without—Effect? p. 276.
11. What analogy between Italian republics and those of ancient Greece? p. 278.
12. How account for the republican movement in the south of France and neighboring provinces of Spain—Interpret the crusade against the Albigenses. p. 279.
13. Why was the movement more successful in the Swiss mountains—What limitation on the Hanseatic towns of the north? p. 280.
14. What gave rise to the attempts at mixed organizations—Name four of these. p. 282.
15. Of these mixed organizations what can you say of the States General [1] disparaging, (a), (b), (c); [2] favorable—Of the Cortes of Spain and Portugal. pp. 283-4.
16. What rendered the English Parliament a political power in the 14th century? (a), (b)—To what extent? p. 286.
17. How account for the tardy movement toward unity in Germany—What was the one reason for all these failures? p. 287.

CHAPTER XI.

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2. What three kinds of facts presented by the 15th

century—In France what was the significance of Joan of Arc? p. 292.

3. What was the political condition of France under the House of Valois—What inspired its unity? p. 293.
4. Between what dates, and under what kings, was the French territory consolidated? p. 294.
5. What resources of government was developed under Charles VII. and Louis XI.? p. 294.
6. What new element did Louis XI. introduce into government—Advance on Charles the Bold—What further step in reserve. p. 295.
7. What corresponding 15th century movements in Spain? (a), (b), (c). pp. 297-8.
8. What analogous facts in Germany? (a), (b), (c). p. 299.
9. What two wars for England in the 15th century—How did they accrue to the profit of royalty? pp. 299-300.
10. What was the condition of the Italian republics in the 15th century? (a), (b), (c), (d). p. 300.
11. What gave rise to the system of the balance of power—What leagues (a), (b), (c)—Why favorable to monarchy (a), (b)—What principle? pp. 300-1.
12. Illustrate the wisdom of relinquishing foreign relations to a central power in the case of the son-in-law of James I. p. 303.
13. What was the Great Schism of the west—Distinguish from Babylonish Captivity—Doings of the Council of Constance (1414) and Basle? (1431). p. 305.
14. Origin, date and scope of the Pragmatic Sanction (1438)—Final fortune—What survived? p. 307.
15. At what juncture did the religious reform of Bohemia break out—Paradox—Fate of John Huss and his reform? p. 309.
16. What was the Renaissance of the 15th century—How did the fall of Constantinople (1453) contribute to this movement? pp. 311-312.
17. How account for the incongruity of enervated manners and intellectual culture in the Renaissance—Analogy in French history. p. 312.
18. What voyages of discovery, and invention, in this century—Conclusion. p. 313.

READING CIRCLES IN INDIANA.

[Indianapolis Sentinel, Sunday, November 22, 1896.]

The organization, history and practical working of the teachers' and children's reading circles of Indiana are familiar to all of the school people, but the public in general know little of them; hence, a brief description of these organizations may be profitable.

The Circles are managed by a board of directors, consisting of ten members. Two of these, the State Superintendent of Public Instruction and Deputy, are members ex-officio. The other eight members are elected, two each year, for a term of four years, by the State Teachers' Association, to

which body the board is directly responsible for all its acts. The board has usually been composed of men and women who were actively engaged in school work, not representing the different divisions and departments of the teaching force of the state so much as the unity and solidarity of the teaching profession. The board of directors is not an incorporated body, but its standing and character are such that it has never had any difficulty in making and in securing the enforcement of contracts involving thousands of dollars.

As indicated, the board is under the control and direction of the State Teachers' Association, and an annual report is made to that body of the business of the Circles. The secretary keeps full minutes of the meetings of the board, and the records are regularly offered to the committee of the State Teachers' Association which is annually appointed to consider the condition of the Circles.

The chief duty of the board is to lay out courses of reading for both the teachers' and young people's circles. For the teachers' circle, two books are selected each year, one on some professional line and one in the line of general culture.

This Circle is organized in every township in the state. Every township organization is independent in its methods of work, and the success and profit from the work depends upon the spirit and enthusiasm of the teachers. Thus, the study of the teachers in their reading course has been brought to a healthful uniformity without interfering with local or individual independence.

In the township institute outlines, prepared by the State Department of Public Instruction, there is presented an outline or syllabus of the course, presenting suggestions and questions in the texts. With this outline as a guide and with the further direction from a competent leader in each township, the teachers usually receive great benefit from a careful and conscientious study of the courses outlined in the township institutes.

In many localities men and women who are not teachers, and young people who are preparing to teach, join the circle and follow the course of reading. The benefit to the schools and the citizens of the townships from such organized reading may be considered as invaluable.

THE YOUNG PEOPLE'S CIRCLE.

As far-reaching and effective as have been the results of the teachers' reading circle, still it is believed that the young people's circle has accomplished more good. After the teachers' circle had been carried on so successfully for a few years, it was suggested that the same organization might extend its work for the young people of the state. Careful teachers had observed that many of the children under their care either had no taste for

the reading of good books, or had a liking for vicious books. They believed, too, that the ability to read, unless it be coupled with a taste for the best, leaves the child the victim of circumstances.

The work was undertaken with the thought that it is far better to begin early in the life of the child to lead him to discover the real treasures in books. Nothing but the best books are selected. Among the one hundred and sixty-two thus far chosen there are included stories from mythology, stories of child life, novels, biographies, histories, travels, science, poems, dramas, and sketches—a variety of books, many of which have a direct bearing upon the special subjects pursued in the course of instruction prescribed by the state, but all of which have a higher purpose to serve, to perform the function of true art, to minister to the soul.

In many of the counties all of the books of the circle, and many more, have become the property of the schools, thus forming a beginning of a school library. It is hoped that these books will form the nucleus of a library in every school district in the state.

Through these libraries not only the pupils, but all of the people of some districts have become interested in good books and so the influence has been extended.

There are fifteen to twenty books placed in the young people's list each year, and are sold to the members at less than wholesale prices. The books are bought and distributed over the state by the manager, who is employed by the board to do this work. The manager has his office in this city.

There were over 13,000 members in the teachers' and 195,000 members in the young people's circles last year.

F. A. CORTON,

Secretary Indiana Reading Circles.

"Nature, the old nurse, took
The child upon her knee
Saying: 'Here is a story book
Thy Father has written for thee.'

" 'Come wander with me,' she said
'Into regions yet untrod,
And read what is still unread
In the manuscript of God.'

"And he wandered away and away
With Nature, the dear old nurse,
Who sang to him night and day
The rhymes of the universe.

"And whenever the day seemed long,
Or his heart began to fail,
She would sing a more wonderful song
Or tell a more marvelous tale."

LONGFELLOW—*Agassiz.*

STATE DEPARTMENT.

[Many of the letters written from the Department of Public Instruction in answer to questions relative to school matters in different parts of the state are of general interest. We feel that the teachers should be in close touch with this department and we have arranged to have transcripts made of all important letters written and circulars issued and shall present them to our readers each month, under the head, "State Department."—Eds.]

Christmas Holidays.

DEAR SIR:—I have just received your favor of Dec. 15th, in which you make inquiry about the power of a County Board of Education to regulate Christmas holidays. In reply will say that the law creating the County Board of Education gives this body power, and makes it its duty to pass rules and regulations for the government, attendance, etc., of the schools of the County. The custom of having a week's vacation at the time of the Christmas holidays has become almost universal throughout the State. All of the city and town schools, and a great many of the country schools observe this holiday. It is a vacation which the children of the State look forward to with great interest. I am of the opinion that it should be universally observed, and hold, as above, that the resolution of your County Board will be binding on the teachers of your County.

The fact that your schools have been broken into with sickness does not change the question. This is one of the many misfortunes which we are called upon to meet. Yours very truly,

D. M. GEETING.

* * *

INDIANAPOLIS, IND., December 16, 1896.

State Board of Health Instructions Mandatory.

DEAR SIR:—The following question is found in your letter of December 13th: "Are the instructions of the State Board of Health mandatory on a school board in regard to having pencils sterilized?" The Supreme Court has never passed upon this matter, but the opinion of the Attorney General is to the effect that the statute, creating the State Board of Health, gives their rules and regulations the power of law, and that the Board can enforce them by appealing to the court.

School boards and township trustees, in carrying out the rules and regulations, should exercise great care in the purchase of necessary material so as not to entail a heavy expense upon the school corporations.

After a very careful reading of the law creating the State Board of Health, I am of the opinion that it has the power to enforce its decrees.

Very Truly,

D. M. GEETING.

INDIANAPOLIS IND., Dec. 17, 1896.

Schools Closed By Diphtheria.

DEAR SIR:—We have before us this morning your letter of inquiry dated December 15th.

I will answer the questions in the order asked:

1. "If the disease of diphtheria is found quite extensively in the community and the trustee notifies the teacher to close his school, which is thought to be the best thing to do also by the patrons, is it not the duty of the trustee to pay the teacher, without any discussion, per-diem for the time the school was closed?" The Supreme Court of Indiana (74 Ind. 127) holds that in a contract, such as the one before us, the teacher is entitled to recover compensation for every day covered by the term provided for in the contract, and is not confined to the days in which she actually taught the school, if the failure to conduct the school each day of the term was caused by the wrongful act or omission of the authorities. The Ind. Appellate Court, Vol. X, 428, says: Where a school town contracts with a teacher for a certain number of weeks of service, and, before the expiration of the term, closes the school upon order of the county board of health because of the prevalence of diphtheria, it is liable for the teacher's salary for the time the school is closed, the non-performance of the contract not being due to an act of God.

2. "In case there seems to have been injustice done the applicant for teacher's license, in the person of County Superintendent, in grading the manuscript is there any appeal to the State Superintendent, if so, how can it be accomplished?" All questions of a general character are appealable from the County Superintendent to the Superintendent of Public Instruction. You have simply to state your grievance in the proper form, setting forth the reason for your appeal, presenting the same to the County Superintendent, within 30 days after receiving your report, who will complete the record and forward the matter to this department for consideration.

Very Truly,

D. M. GEETING.

FRANKLIN'S EPITAPH.

(Written by himself.)

The body of Benjamin Franklin, printer,

(Like the cover of an old book,

Its contents torn out,

Stript of its lettering and gilding,)

Lies here, food for worms.

Yet the work itself shall not be lost;

For it will, as he believed, appear once more,

In a new and more beautiful edition,

Corrected and amended by the Author.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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* * *

Those of our subscribers who took advantage of the arrangement which allowed them until January 1st, 1897, to pay their subscriptions, will confer a favor on the publishers if they will promptly remit. Many have not done so.

God Bless Us,
Every One!

THE EDUCATOR reaches its readers this month just as a new year begins. It is a time for weighing the past, and looking forward with renewed and strengthened hopes to the future. At such a time we are apt to think a little more seriously upon the great problems of life. We are apt to promise ourselves much in the way of turning over "new leaves." And all this reflection and all these promises will bring good results. Amidst all the merriment of the holiday season the thought is impressed upon our minds that the public schools do not do enough to keep alive the sentiments appropriate to the time. Christmas means much to us all, but to many it does not mean as much as it ought to. In our struggle for material advancement we are apt to lose sight of the more unselfish sentiments which the occasion stands for. The school may easily overdo the matter of celebrating special days, but there can be no mistake in putting unusual stress upon Christmas. THE EDUCATOR wishes all of its readers the happiest of New Years and promises its best efforts in helping them make 1897 a year of remarkable progress in educational matters.

* * *

Compulsory Education. Superintendent T. J. Charlton, of the Boys' Reform School, at Plainfield, at a recent anniversary meeting of the Indianapolis Charity Organization Society, delivered an address on Compulsory Education. The following is taken from an abstract of his address:

There are in Indiana 75,917 children of school age, and yet but 529,315 were enrolled last year, and of these the average daily attendance was but 32,015, only about 50 per cent. of the children enumerated. If education is a good thing for children, why do we allow parents to deprive them of this blessing? Every child is a citizen and is entitled to the protection of the state. If a parent, for any flimsy excuse, attempts to rob the child of its educational privileges, it is the duty of the state to protect it from such robbery. Of all the states, only eighteen, among which is Indiana, have not adopted compulsory education laws. The labor organizations have uniformly favored the passage of laws prohibiting the employment of any child under fourteen years of age during the school year. When we consider that the effect of absenteeism from day school is to raise children to become criminals, the wonder is that all states have not long ago declared for compulsory education.

As the superintendent of the Boys' Reform School of this state I have seen the evils of truancy and absenteeism from school. As a rule our boys have not attended school. Most of them come to us unable to read or write. It is a common occurrence for boys from sixteen to twenty-one, when they come to us, to be placed in the first reader. Our lowest primary grades are composed of boys who are as old as our highest grades. Let a compulsory law be adopted and it will save thousands of our boys. I believe that the coming Legislature will pass such a law. It is earnestly recommended by the State Superintendent, Professor Goetting. I would make the law so that all children be required to attend school at least twelve weeks each year. In two years I would revise it, making it for sixteen weeks; then twenty-six weeks,

and finally I would make it like Massachusetts, for thirty weeks. In many cases the mere passage of law has increased the attendance in the schools 60 per cent. the first year. We have been entirely too conservative here in Indiana.

I have no sympathy with the maudlin sentiment that by such a law we supplant the natural rights of the parent. In all other matters we do not hesitate to restrict the rights of vicious parents. No one has the right to blast the life of a child. Parental authority is a good thing where exercised for the good of the child. It is a vicious thing when not so exercised. In my work I have seen the baneful efforts of vicious parents blasting the lives of hundreds of boys.

There is another evil for which the newspapers are responsible. It is the occupation of news boys. Abolish the business of news boys and let papers be distributed through proper agencies and at proper times. It is an occupation which takes boys on the streets, and street life is destructive to childhood. Reform-school boys are largely graduates from this occupation of news boys and boot blacks. Abolish them both as twin evils. Let licensed stands be established at proper places under the control of adults, where papers can be purchased and boots blacked.

Above all, adopt a curfew ordinance that will prohibit children from being on the streets after 9 o'clock P. M. in summer and 8 o'clock P. M. in winter.

Superintendent Charlton makes some strong points in favor of a compulsory education law. We believe Indiana needs such a law but that it may be most effective, the schools themselves should be so strengthened as to disarm all criticism that might justly arise from a law compelling attendance upon them. Then, when these provisions are made, we are in favor of a law compelling attendance *during the entire time which school is in session*. The weakest point in the laws on the statutes of other states is the brief attendance required; this defect in the laws leaves the bars down for child employment in factories, and even if the children attend school the short time required it is merely to fulfill the letter of the law, and no interest is taken in school work.

The speaker thinks that the occupations of "news boys," and "boot blacks" should be abolished. We should add those of "telegraph messengers," and "cash boys and girls," and place them all under the child-labor law. We have spoken many times in regard to the arrested development that comes from such occupations as these. Presently these children find themselves adult in stature, but still children in capacity, with their occupations gone. Surely these things should receive the earnest attention of the people over the state.

A New Education Law for Indiana.

The opinion seems to be general among the best educators over the state that the time has come for Indiana to strengthen her school system. We are in favor of a general *Educational Law*, involving all the specific points which need attention at this time.

First, we are in favor of the recommendation made by Superintendent Geeting, that the grading of manuscripts be done by the State Department and that the license be good for the entire state.

Second, we are in favor of retaining the office of county superintendent, and of making its function that of supervision; the incumbent should be supervisor of the schools of the county, and should have an assistant in each township, or at least enough assistants to thoroughly unify the work of the county.

Third, we are in favor of a professional qualification for all supervisors.

Fourth, we are in favor of a professional qualification for all teachers.

Fifth, we are in favor of an educational qualification for all school officers.

Sixth, we are in favor of removing all *time limits* in the matter of passing examinations for state license. Let ability be the test. The law that denies the privilege of examination to any one and withholds a certificate from any one who has demonstrated his right to it is illogical and unjust.

Seventh, we are in favor of divorcing the school from the poorhouse. In other words, we are in favor of taking all school duties out of the hands of the township trustee as the office now stands, and placing these duties in a special school officer who shall have educational qualifications.

Eighth, we are in favor of a compulsory education law with the following provisions:

1. The requirement of attendance at school *during the entire time which school is in session*, of all children between the ages of seven and fourteen not physically or mentally incapacitated.
2. The creation of a special school officer for the enforcement of this law.
3. The withholding of all state funds from the district or community which does not enforce this law.

The first criticism that will probably be offered to such a system is that it will cost too much. It will cost *money*. But the present system is costing more money in jails, almshouses, reform schools and penitentiaries, and, in addition, is sapping the very foundations of our freedom. When shall we see the truth, and, seeing it clearly, perform?

* * *

District Supervision.

We have several times called attention in our editorial columns to the advantages which would follow a closer supervision of the work in district schools. The ideal, of course, would be township supervision, which, perhaps in any carefully organized form, would not be immediately practicable. It is believed, however, that the pres-

ent is a good time to agitate the matter and awaken public sentiment in behalf of such a movement. Nothing would do more to make the schools more worthy of public support. It is gratifying to notice that already in certain parts of the state quite a great deal of interest is manifested, and that in some counties there are special supervisors of music, and in more than one instance township supervisors for the regular school work. On the 7th of the present month, the county board of education of Madison county, in session at Anderson, passed a resolution by unanimous vote to the effect that they would introduce closer supervision into the common schools at the earliest practicable moment, and asking the legislature to pass a law which would compel trustees to supply such work to the country schools of the state. At a meeting of the county board of education of Morgan county on the day following, the same question was discussed in connection with the recommendations recently made by State Superintendent Greeting to the legislature. All were indorsed together.

School Supplies.

The Morgan county board also passed a resolution by unanimous vote asking that a law be enacted making the state board of education a state board of school supply commissioners, such board to have the supervision of all supplies that go into the schools of the state, to regulate prices, etc. It is likely that the trustees at their meeting to be held in Indianapolis, January 14th, will be urged to adopt the same resolution. It has been a matter of common observation to all who have had any dealings with the school question, that one of the greatest drains upon the school fund in the state is the useless expenditure of money for material that is practically of no value. So many cases of reprehensible dealing on the part of school trustees and the agents of school supply houses have come to light within the last few months, that almost every purchase of school supplies is looked upon by the people with suspicion. Trustees owe it to themselves to assist in every way in surrounding the purchase of supplies with conditions that will entitle them to public confidence. Whether it is the best method or not, we are unable to say. It is clear, however, that something should be done.

Department of Superintendence.

We expressed the hope last month that we would be able to give in this issue, at least the provisional program of the Department of Superintendence of the N. E. A. for its meeting at Indianapolis next month. The program is not sufficiently settled, however, to present. Everything points to a very successful meeting, not only

in point of attendance but in interest of discussion. It is a matter of congratulation to Hoosiers that Superintendent W. H. Senour, of Franklin county is to be in charge of the County Superintendents Round-table

"How Can the Home Assist the School?"

Was the subject discussed at nineteen different schools in Brooklyn, N. Y., on the afternoon of November 17th last. The occasion was the result of a united effort to bring together teachers and parents for the consideration and discussion of common interests. Dr. Walter B. Gunnison, president of the Brooklyn Principals' Association, appears to be the organizer of this movement, but as he announces no copyright upon the plan, reference is made to it here in the hope that similar associations may be formed elsewhere. It too often happens that parent and teacher unconsciously antagonize each other and thus counteract each other's influence upon the child—a sad result that might be avoided in nine cases out of ten if teacher and parent would simply try to understand each other. Let parents and teachers and the board of education get together and labor in greater harmony for the higher welfare of the child.

Meeting of Township Trustees.

The township trustees of Indiana will hold a meeting at Indianapolis, January 14-15. A large attendance is expected, and the meeting will be addressed by a number of prominent educators of the state. This meeting will be of large importance, and many of the duties pertaining to the office will be discussed. The office of township trustee is really one of the most important offices in the state of Indiana. It holds in its hands many of the best interests of the people, and these interests demand more than ordinary care and intelligence on the part of the incumbent.

President Swain.

In connection with the excellent likeness of Dr. Swain, which we take pleasure in presenting to his friends, something of his life and work is in place here. He has been president of Indiana University since 1893, and his fine presence has become a very definite factor in the educational circles of the state. During these three years he has visited and lectured in every county in the state. Possibly his interest in education and his presence at so many meetings account in large measure, for the remarkable increase in attendance at the university during these years. The number has grown from 572 to 879.

His early years were spent in school in the coun-

try and working on a farm. He prepared for college at Pendleton Academy. He taught two terms of school in the country before entering college, and entered the State University in the fall of 1879, graduating in 1883. On graduation he was elected instructor in mathematics and biology in his Alma Mater. He was assistant to Dr. Daniel Kirkwood, then Professor of Mathematics in Indiana University, and to Dr. David Starr Jordan, at that time Professor of Biology, and the inspiration of these two men has been a great factor in his life. In 1885 he was elected Associate Professor of Mathematics with one year's leave of absence to study in Edinburgh University. The same year Mr. Swain married Miss Fannie H. Morgan of Knightstown, and they spent their first year of married life in Edinburgh, Scotland. In 1886, on the recommendation of Dr. Kirkwood, Mr. Swain was elected his successor as Professor of Mathematics in Indiana University. This position he continued to hold until 1891, when he accepted the head of the department of mathematics in Leland Stanford, Jr., University. At the time he accepted the presidency of Indiana University he was offered the vice presidency of Stanford University.

Dr. Swain holds the degrees of A.B. and A.M. from Indiana University, and the honorary degree of LL.D. from Wabash College.

He has written numerous scientific papers for the publications of the Smithsonian Institution, and other periodicals. He has been president of the Indiana State Teachers' Association, and is now president of the Higher Education Section of the National Educational Association.

The Glacial Boundary in Indiana.

Mr. Frank Leverett of the United States Geological Survey, spent the month of October in southern Indiana, studying the drift and the disturbances of drainage produced by the glacial invasion; as stated in the preliminary note to his article on the Glacial Deposits of Indiana in THE INLAND EDUCATOR, for August, 1896, the glacial boundary, as laid down on the map accompanying that article was only a rude approximation. Further study in the field has made our knowledge more definite. Mr. Leverett's latest observations have extended the limit of drift in southwestern Indiana from ten to thirty miles to the southeast. The glacial boundary is now known to cross the counties as follows: central Posey, northwestern Vanderburg, southeastern Gibson and Pike, north-eastern Dubois, central Martin and eastern Greene and Owen to the northwest corner of Monroe. Mr. Leverett will read a paper upon this subject at the meeting of the Geological Society of America at Washington, Dec. 29-31.

"Cribbing" at Harvard.

According to the old theory the student who practiced dishonesty in recitation or examination was himself the loser, and therefore the professor was not required to ask too carefully into the student's methods. But there has been a change at Harvard; the faculty has resolved, as a new way to correct the evil, that students who present work which is not their own shall have their names posted upon the college bulletin board. The plan is certainly novel, and the penalty well-fitted to the fault. Beside, the effort to break up the practice is highly commendable, though the scheme reminds one just a little of the solemn council in which some mice resolved to fasten a bell around the neck of a cat. To have one's name thus publicly posted would surely be dishonor enough for any student with a sense of shame, but to prove guilt would seem to be the difficult feature of the plan. Perhaps, after all, the measure is designed to deter rather than to punish.

* * *

In Cuba.

The conflict grows warmer. The death of the patriot Maceo seems to rouse the insurgents to greater daring, while a suspicion that he was traitorously assassinated only intensifies Cuban hatred towards the Spaniards. Rumors continue to assert that Weyler has been ordered to show some definite progress in subduing the insurrection, or to come home.

* * *

Echoes from the President's Message.

The President's message will be a month old before THE INLAND EDUCATOR for January reaches its readers, but as one or two of the topics there treated have remained so prominently before the public, reference may properly be made to them here. The subject of greatest interest was the position taken in reference to Cuba; and here, as throughout the message, the President was soundly conservative. He maintains that the Cuban insurgents have failed, thus far, to establish anything like a fixed form of government, and that hence there can be no recognition of them as belligerents. There is a hint, however, that a continuation of unwarlike atrocities may impose upon us higher obligations than those of mere neutrality.

Equally conservative was the view taken of the situation in Turkey, although the President's language was vigorous enough to arouse the Sultan's ire. On the other hand, there is a large class in the United States claiming that the administration shirks a plain duty in not demanding protection for American citizens in Turkey. This charge is met by the assertion that no American citizens

have yet been maltreated. The reports are conflicting.

Meanwhile the Sultan prosecutes his Beddish atrocities in Armenia, and laughs at all Europe helplessly entangled in a network of intricate treaties.

Three Weeks of Congress.

Both branches adjourned on the third of the holiday vacation. The most striking feature thus far has been the vigorous discussion in the senate upon the Cuban question. Senators Cameron, Call, and Call were leaders in speeches of a most beligerent nature, demanding independence for Cuba, and declaring Spain "an outcast from the family of nations." The main body of the senate favors less radical action, while Secretary Olney firmly denies the right of the United States to interfere. Such bitter denunciation has naturally rendered the Spanish press warmly hostile. Spanish officials are more calm, but not at all disposed to accept the President's offer of peace-making.

German Vessels Must Now Pay Tonnage.

One of the agreements that grew out of the reciprocity movement a few years ago was that between the United States and Germany according to which the vessels of each nation were to have free entrance to the ports of the other. This agreement was greatly to the advantage of Germany, whose tonnage dues were more than a hundred times as large as ours; yet it appears that she has not kept her agreement; she has insisted upon charging our vessels for entering her harbors, in spite of repeated protests by our government. The consequence is that the president has revoked the privilege, and Germany will now pay us about \$600,000 a year for the use of our ports.

Something New in Counterfeits.

The latest dodge is the manufacture of silver coins that contain more silver than the genuine article. This is made possible and profitable by the low market price of silver, and the government is at a loss to know how to check the circulation of the spurious money. The only remedy thus far suggested is the use of a new device for milling the edges of the government coins.

Slavery Abolished in Madagascar.

The French government has issued a decree abolishing slavery in Madagascar. It declares all the inhabitants free, forbids traffic in human beings, nullifies every contract providing for the sale of persons, and imposes

penalties for violations of the law which would be tripled in case of second offense. Another decree relating to schools prohibits interference by teachers in political affairs, and urges instruction in the French language.

EDUCATIONAL INFORMATION.

The *High School Advocate*, a very creditable eight-page paper, is published by the Terre Haute High School pupils weekly. Don Nixon and Walter Lybrand are its editors. We think that enterprises of this kind ought to be encouraged by high school authorities, as they have a large educative value.

The mid-winter meeting of the Pulaski County Teachers' Association, during the Thanksgiving holidays, was conducted by Superintendent Reddick, with Professor Thomas F. Moran of Purdue University, and Professor Bassett of LePauw, as instructors. The work was very much appreciated by the teachers.

Professor W. J. Moenkhaus of the Indiana University faculty, who is at Harvard on a leave of absence, has been offered the position of director of the National Museum, of Sao Paulo, Brazil, at a very handsome salary. Mr. Moenkhaus is a very strong student and would fill such a position with credit to himself and his country.

E. R. Smith, until recently the very popular and efficient representative of Ginn & Co., is now with Messrs. D. C. Heath & Co., of Chicago. Mr. Smith's territory is Indiana, Ohio and Michigan. He has a host of friends amongst the school people in this state who continue to wish him the highest success in whatever field of endeavor he enters.

With November, the Portland High school begins the issue of a new monthly journal to be called "The High School Apposol." It is a neat journal in magazine form, consisting of sixteen pages and cover, and presents a very interesting array of contents. The publication of such a paper affords an excellent field for practice in writing for the students conducting the same.

The teachers of Starke county, Indiana, held a very successful mid-winter meeting on Friday and Saturday, December 18-19. All the teachers were present but two, who were detained by sickness. The instructors were Professor Arnold Tompkins, of the Illinois State University, and Mr. Louis D. Eichhorn of Logansport, Indiana. Superintendent W. B. Sinclair conducted the meeting.

Saline, Williamson and Johnson counties held a joint institute at Vienna, Illinois, November 27-28 '96. The principal instructor was Professor S. E.

Harwood, of the Southern Illinois Normal University, at Carbondale. Professor Harwood discussed "Reading as a Means of Getting Power," "Need of More Professional Training," "Kinds of Incentives to be Placed Before the Pupils," and lectured upon "Religion in the Public Schools."

In the industrial edition of the *Western Star*, of December 17th, we find a fine write up of Mt. Vernon, Indiana. Of special interest is a page given up to a description of the school system of that city. It is illustrated with a picture of the High School building, and portraits of Superintendent Monroe and Professor Edward G. Bauman. The schools are in excellent condition, and the people there have just reason to congratulate themselves on the excellent instructors in charge. We note with interest that the high school maintains a first-class lecture course.

We have recently received a copy of the school manual of Johnson county, issued by Superintendent E. L. Hendricks. It is very carefully prepared and contains a detailed statement of the uniform high school course for the township high schools of the county. Johnson county is one of the limited number in the state in which the township high school has reached a high grade of development. Only one other uniform course for township high schools has reached our table, that prepared by the principals in Huntington county under the direction of the county superintendent.

The teachers of Gibson county, Indiana, held an unusually good and enthusiastic session of their Literary Association at Princeton November 27-28, 1896. There was a full attendance and the meeting was addressed by Dr. A. M. Campbell, President A. H. Yoder, and Superintendents Churchill and Peak. The music for the occasion was especially good. There were vocal solos by Miss Woodruff of Oakland City, and the Misses Adelaide Hall, Ellie Kolb, and Laura Pumphrey of Princeton; instrumental selections were rendered by the Misses Katharine Riggs and Jessie Wright of Princeton. Superintendent H. W. Niekamp conducted the meeting.

The January *Kindergarten Magazine*, published by the Kindergarten Literature Company, 1207 Woman's Temple, Chicago, devotes considerable space to the recognition of the great pioneer American educator, Dr. Henry Barnard, whose eighty-sixth birth-day will occur January the 24th. There is a frontispiece portrait, a tribute to him by Mr. James L. Hughes, and an article on "Dr. Barnard and the Kindergarten" by Professor Will S. Monroe. This number of the *Kindergarten Magazine* will prove very interesting to teachers who care to know something of our educational

founders. Henry Barnard's name ranks alongside of the name of Horace Mann in educational work in this country.

The teachers of Missouri are making a strong effort toward some legislation this winter for better supervision in their rural schools. A committee, composed of Messrs. R. H. Jesse, A. J. Wray, J. C. White, J. D. Elliff and F. M. Walters was appointed by the State Teachers' Association at its last meeting. This committee has prepared a very full discussion of the Missouri system with its present defects, in which it has stated what it thinks would be the best thing in the way of a remedy for these defects, and has sent it out as an appeal to teachers, patrons and legislators in behalf of the rural schools. The Missouri school system already embodies some of the best features of modern school ideas, and if it may have incorporated in it these new ideas it certainly will be one of the strongest systems in the Union. Many of our readers will remember Professor Walters as an Indiana man.

The American Book Company, with its usual liberality, is sending to all who may desire it a copy of the school calendar for 1897. This calendar has been issued by this house for several years, and is always awaited with pleasant anticipations by teachers. For the present year the calendar contains some special features in addition to those of former years, which makes it especially attractive. The legal and other holidays in all the states are indicated, the names of the chief officers of the United States government, the electoral vote of all the states at the last election, an estimate of the present population of the states by the state school superintendents, a summary of recent geographical events, and a list of the books prescribed for study and practice in English by the leading colleges and universities. The calendar is beautifully printed in colors, and has a patent adjustment so that the leaves are easily turned and preserved instead of being torn off, as in ordinary calendars. Any teacher may secure a copy free by applying to the American Book Company, New York, Cincinnati or Chicago.

The attention of the members of the Illinois Society for Child-Study is called to the fact that an assessment of fifty cents has been made upon all old members to defray the expenses of the new publication now being issued. This publication will be an unusually extensive, interesting and valuable publication, and it is earnestly hoped that all will unite in the further support of the Society and of the cause which it represents. In return for the original membership fee of \$1.00, each member should have received five publica-

tions. Owing to the need of funds for the publication, the new number can be sent only to those who pay the assessment fee of fifty cents. New members can secure all of the old publications by the payment of the membership fee of \$1.00. Early in 1897 a new syllabus of directions and readings in child-study will be prepared for those who desire work of the most practical kind. This syllabus will be sent to all members who have paid the assessment fee, upon application. It will be sent to others upon the payment of the sum of ten cents to cover the cost of printing. Numbers of this syllabus will be furnished at reduced rates. Address C. C. Van Liew, Secretary and Treasurer Illinois Society for Child-Study, Normal, Ill.

BOOK REVIEWS.

TRIGONOMETRY FOR BEGINNERS. By J. B. Lock. Revised by John A. Miller. New York: The Mac Millan Company. Price, \$1.10.

One of the greatest evils of many elementary text-books is that of leading the student to form wrong conceptions—conceptions that must be wholly or partially changed in later study. In this book great care has been exercised against such error, and it is evinced throughout the work that the author saw his subject in relation to its kindred.

The evolution of the subject-matter is clear, and forcibly put, as shown by the many rigid proofs for the establishment of fundamental formulae. In this connection, it is noticeable that many of the propositions are formulated, and then left as exercises for the student. This procedure is very commendable.

There are many practical, graded exercises throughout the book. And besides being an elementary text on Plane Trigonometry, there are two chapters on Spherical Trigonometry, and one on Inverse Trigonometric Functions. Logarithmic and Trigonometric tables have been inserted, calculated to five places of decimals.

J. W. S.

FIRST YEAR IN GERMAN. By I. Keller, Professor of German Language and Literature in the Normal College of the City of New York. New York, Cincinnati and Chicago: American Book Co. 290 pages, cloth. 12 mo. Price \$1.00.

Professor Keller has recognized two difficulties that occur to Americans commencing the study of German: the tendency first to emphasize inflections and grammatical principles, second to slight these in favor of what is called the natural or imitative method. The former is apt to create a dislike for the study while the latter results in imperfect knowledge. Manifestly neither ex-

treme is profitable, yet there are good and essential features in each system, and it is these that the author attempts to combine in his first year book. The selection to be read is made the basis of the lesson, and from it are derived the grammatical principles which are involved. This practical application of grammar and inflection appears to be the characteristic feature of the book. The simpler inflections are given in an appendix, while the more irregular ones are properly enough reserved for a second book.

W. W. S.

PLANTS AND THEIR CHILDREN. By Mrs. Wm. Starr Dana. New York, Cincinnati and Chicago: American Book Co. 265 pages. Price 65 cents.

We predict for this book the accomplishment of the author's aim, namely, to teach reading, to amuse, and to instruct. In each chapter the lives of various plants are woven into stories that must entertain and fascinate the child like the stories of real persons. In the Orchard, Seed Sailboats, Some Cousins of the Apple, and A Humphracked Plant Baby, are titles of chapters which indicate the style of the work. The stories read like fairy tales, but all the while Mrs. Dana is teaching the true habits and principles of growth in plant life and doing a great deal to awaken in the child correct powers of observation, and a love of nature study. The volume is profusely illustrated with drawings by Alice Josephine Smith.

W. W. S.

STUDIES OF CHILDHOOD. James Sully. New York: D. Appleton & Company. 527 pages. Price, \$2.50.

Since the awakening in this direction much literature has been published on the subject. Nearly every phase has been written upon by investigators. Books with observations by the expert, books by mothers, books scientific and books popular have been offered to the student and the public. Child-study laboratories have been established; child-study societies organized; child-study clubs formed; the educational world has seemingly faced about. And all of this is all right. Out of the abundance of things that are done in the name of child-study surely the best thing to do will be found; and all this stir and study, and all these facts and experiments will surely help us know the truth. The fact that the most prominent psychologists of the world have taken hold of the work and have shown that child-study has a very important place, indeed, in the new psychology, which is genetic, has dignified the movement. The very best literature on the subject has been contributed by G. Stanley Hall and J. Mark Baldwin in this country, and by Perez, Preyer and Sully in Europe. One of the best books in many

ways on the subject which the year just closing produced is *Studies of Childhood*.

This book is at once scientific and popular. It can be read and enjoyed by the average reader. In fact, one seldom comes upon so readable a book. It will be enjoyed by parents and teachers, and will be equally helpful to both. A few of the chapters appeared in the *Popular Science Monthly*, but the large part of the book will be new to American readers. In his introduction the author traces the child in literature, and mentions Rousseau, Wordsworth, Blake, Stevenson, Dickens, Hugo, Swinburn, Preyer, Darwin and others. He shows, too, the importance of child-study to the naturalist, the psychologist, the anthropologist, and to the educator. He says:

The modern world, while erecting the child into an object of aesthetic contemplation, while bringing to bear on him the bull's-eye lamp of scientific observation, has become sorely troubled by the momentous problem of rearing him. What was once a matter of instinct and unthinking rule-of-thumb, has become the subject of profound and perplexing discussion. Mothers—the right sort of mothers, that is—feel that they must know *au fond* this wee, speechless creature which they are called upon to direct into the safe road to manhood. And professional teachers, more particularly the beginners in the work of training, whose work is in some respects the most difficult and the most honourable, have come to see that a clear insight into child-nature and its spontaneous movements, must precede any intelligent attempt to work beneficially upon this nature.

The observation which is to further understanding, which is to be acceptable to science, must itself be scientific. That is to say, it must be at once guided by foreknowledge, specially directed to what is essential in a phenomenon and its surroundings or conditions, and perfectly exact. If anybody supposes this to be easy, he should first try his hand at the work, and then compare what he has seen with what Darwin or Preyer has been able to discover.

If anyone asks me what the qualifications of a good child-observer amount to, I may perhaps answer, for the sake of brevity, "a divining faculty, the offspring of child-love, perfected by scientific training."

With the spirit indicated in these quotations the author begins his discussion with "The age of Imagination." Of the many interesting chapters in the book perhaps the two entitled "Extracts from a Father's Diary," and "George Sand's 'Childhood,'" may prove most attractive to the general reader. The entire book is certainly a valuable contribution to child-study literature.

F. M. S.

INDIANA STATE BOARD QUESTIONS FOR DECEMBER, WITH DISCUSSIONS.

LITERARY REVIEW.

(Any five.)

1. What was the distinguishing feature of ancient civilization as to its "unity of character?" Explain.
2. Describe the theocratic form of government, and state what has been its relation to intellectual and political advancement.

3. State and describe briefly the ruling idea which controlled Greek civilization; Egyptian civilization. Compare and contrast the effect of the rule of a single idea in these two countries.
4. Compare and contrast ancient civilization with that of modern Europe.
5. "Modern civilization is the product of what has gone before." Explain this quotation and give some illustrations of its meaning.
6. How does Guizot account for the temporary progress of ancient civilizations, and for the permanent progress of modern European civilizations?
6. Describe in general the nature of the Roman empire, and state in what important particular its government differed from that of the United States.

1. Its distinguishing feature was that it was very completely dominated by a single thought; or in other words, that there was little diversity, but great "unity of character." There were not many channels of thought and life amongst the people, but all life was cast in a single mold. This destroyed variety, and consequently destroyed progress.

2. The theocratic form of government is that form in which the power, both civil and religious, is placed in the hand of a priesthood. In this form the whole life of the people,—the social, religious, industrial, political, is directed, controlled, and jealously guarded by the religious body or priesthood.

In the earliest stages of society it aided in political and intellectual advancement of the few in society. But such an organization has always tended to place thought, culture, and power in the hands of a few people. In short, it has always been against the "democratic tide" of intellectual and political advancement.

3. The ruling idea which controlled Greek civilization was that of *individualism*, of democracy in its extremest form.

That of Egypt was theocracy—the rule of a single class, namely, the priests.

In both countries the rule of a single idea led to their final downfall.

In each country the entire life was directed into a single channel, and hence lacked balance.

In Egypt, the life grew slowly, and then slowly became torpid and lifeless.

In Greece the life grew rapidly, and soon rose in great brilliance, but because of their intense individualism, were unable to unite and form a compact national government, and soon fell into political decay.

4. Ancient civilization was one-sided, modern civilization is many-sided; the former was ruled by single ideas, the latter by a diversity of ideas.

The ancient civilization progressed for a time and then decayed; modern Europe still continues to progress; the one tended to despotism, the other to democracy; ancient life was for *one*, the modern life is for *all*.

5. This means that every age, people, nation, generation, has contributed something to that general stock of refinement, culture—whether material, scientific, moral, religious or political—which we take in the sum-total and call civilization. It means that the present is made up, as it were, of concentric circles which represent all that has been contributed by all anterior ages to the present in the way of intellectual and moral culture.

6. He accounts for the former by saying they were dominated by single ideas, which finally crushed individual thought, and thence progress.

He accounts for the latter by saying that they are

kept permanently progressive through the struggle of many ideas, none of which are able to gain a complete mastery over the others; but which stimulates each other by their struggles.

7. The Roman Empire was essentially a municipal government; i. e., it was the government of Rome as a city, extended farther and farther till it reached over the then civilized world.

The most important particular in which it differed from the United States was that it never successfully worked out the idea of representation of the various parts in one common central government.

GRAMMAR.

1. How does the clause differ from the phrase? Illustrate
2. State the use of each word in the following: "Green leaves were here; but 'twas the foliage of the rocks, the birch, the yew, the holly, and the bright green thorn; with hanging islands of resplendent furze."
3. Illustrate in sentences four uses of adverbs.
4. Illustrate difference between the formation of the possessive case singular and the possessive case plural. Explain.
5. Use the expressions "little" and "a little," and explain the distinction.
6. State some ways and means of correcting the written language of pupils.

1. The clause has a subject, predicate, and copula; the phrase has not. The clause may be used in the sentence with the value of a single word, but it is not always so used; the phrase is always used in the sentence with the value of a single word. The tree, *which was large*, was covered with moss, and large blossoms adorned the sides of the trunk.

2. The word, "green," is an adjective and modifies the word, "leaves." The word, "leaves," is a noun and is used as the principal part of the subject of the first clause. The word, "were," is the copula of the first clause and the word, "here," is the predicate. The word, "but," is a conjunction, expressing the relation of opposition between the two coordinate thoughts. The word, "'t," is the subject of the second clause. The word, "was," is the copula. The word, "the," modifies the word, "foliage," which is the principal part of the predicate of the second clause. The word, "of," is a preposition and shows the relation between the idea expressed by the word, "foliage," and the ideas expressed by the words, "rocks," "birch," "yew," "holly," and "thorn," which are the principal words in the prepositional phrase. The word, "and," is a conjunction, expressing the relation between ideas of equal rank. The words, "bright green," are used as an adjective modifier of the word, "thorn," and should be written with a hyphen. The word, "with," is a preposition. The word, "hanging," is an adjective modifier of the word, "islands," which is the principal word of the prepositional phrase. The word, "of," is a preposition. The word, "resplendent," is an adjective modifier of the word, "furze," which is the principal word of the prepositional phrase.

3. Four uses of the adverb are as follows:

- (1.) To modify a pure verb; e. g., The child is *not* large.
- (2.) To modify an adjective; e. g., The stream is *exceedingly* beautiful.
- (3.) To modify an adverb; e. g., The speaker talked *very* rapidly.
- (4.) To modify an attributive verb; e. g., The soldiers fought *bravely*.

4. The possessive case singular is formed by adding the apostrophe and s to the word, except in cases in which such a combination would make

hissing sounds difficult of pronunciation, in which cases the apostrophe only is added; e. g., Tom's, Moses'. The possessive plural is formed by adding the apostrophe only when the plural ends in s; e. g., boys'; and the apostrophe and s when the plural does not end in s; e. g., children's.

5. The expressions may be used as adjectives; e. g., *Little* time is required, *a little* time is required. There is a shade of difference in the meaning, as will be seen in the examples; the expression, "little," being less definite than "a little." About this same difference in meaning exists in other uses.

6. The teacher should examine it whenever she can. This is the best way; older pupils may assist the teacher in correcting the written work of younger pupils. The teacher may have the pupils exchange work while she goes over it carefully with them, the pupils marking all the mistakes they find as the teacher or some pupil gives the work correctly. This is a difficult problem but in some way the teacher must hold the children responsible for their written work if much benefit is to be derived from it.

SCIENTIFIC TEMPERANCE.

(Select five.)

1. What are some of the things with which wines, beers and other liquors are adulterated? What is meant by absolute alcohol? What is meant by 80% and 70% alcohol?
2. Is water a food? Why?
3. What is the function of a true drink?
4. Why does the excessive use of alcohol cause the heart to degenerate into fatty tissue? Does alcohol affect all the muscles in a similar way, or is the heart the only muscle thus affected?
5. Is beer as dangerous used as a beverage as distilled liquors? Give reasons for your answer.
6. What becomes of nicotine when tobacco is smoked?
7. How does the way in which tobacco causes thirst differ from the way in which alcohol produces it?

1. On the subject of the adulteration of wines, Major C. B. Cotton, formerly a wholesale liquor dealer of New York, in contributions to the *Voice*, said: "In coloring wines, either fictitious or foreign, when deficient in color, we use for a fawn, yellow or cherry color, tincture of saffron, tumeric or safflower; for amber or deep brown, burned sugar coloring. Cochineal, with a little alum, gives a pink color; beet root and red sanders, a red color; the extract of rhatany and logwood, and the juices of elder-berries and bilberries a port wine color.

"Sometimes our wines become muddy—or in our parlance, "sick"—and we have to fine or "recover" them. For this purpose we use the white of an egg, isinglass, hartshorn shavings, or pale sweet glue; for heavy wines, sheep's or bullock's blood. Gypsum is used to fine muddy white wines, also sugar of lead and bisulphite of potassium. When we find a lack of flavor, we use, according to circumstances, burned almonds or the essential oil to give a nutty flavor, and rhatany, hino, or oak sawdust, or bark, with alum, to give astringency. To impart the fine flavors we use orris root, orange blossoms, neroli violet petals, vanilla, cedrat, sweet brier, cardamon seeds, quinces, elder berries or cherry laurel. When our wines need *improving*, we use, in sherry, Maderia and port, almond flavorings, rhatany and catechu, with honey or glycerine. For *mustiness* we use sweet oil or almond oil, fresh burned charcoal, bread toasted black, or bruised mustard seed. For *ropiness*, the bruised berries of the mountain ash,

catechu, chalk, milk of lime, and calcined oyster shells are used, and, if very bad, we use litharge."

Malt liquors are adulterated with molasses, honey, licorice, vitriol, quassia, cocculus indicus, grains of paradise, Guinia pepper and opium.

Spirituos liquors are adulterated with tannic acid, acetic acid, pyroligneous and pyroxylic acids, the oil of creosote, glucose, essence of angelica, oil of vitriol, etc.

Absolute alcohol, theoretically, is perfectly pure alcohol. But practically the commercial article known as "absolute alcohol" contains some water. 80 per cent. and 70 per cent. alcohol mean respectively alcohol containing 80 per cent. and 70 per cent. of pure alcohol and 20 per cent. and 30 per cent. of water..

2. No. Because it does not feed tissue or replenish force.

3. To furnish a fluid in which the blood corpuscles and other matter may be floated through the body.

4. Because alcohol retards the oxidation of the carbonaceous matters of the system, and allows them to accumulate in the form of inert fat. Then the cells of the muscle are replaced by the fat particles. Something of the same nature takes place in other muscles.

5. Yes. Because it is used more regularly, thus keeping the system saturated.

6. It is largely drawn into the mouth and throat by the smoke, where it is in a position to be absorbed into the system. It also collects in the bowls and stems of pipes and holders.

7. Tobacco produces thirst by wasting saliva and parching the throat. Alcohol produces thirst by actually absorbing the water from the system.

SCIENCE OF EDUCATION.

(Any five.)

1. When Herbart speaks of the subjects of study in the schools as fitted to give the pupils a "moral revelation of the world," what does he mean?
2. Using any one of the common school branches as an illustration, show that, studied properly, it will to some extent reveal the moral world to the pupil.
3. If the pupil is led to see and realize that the world has a moral constitution, what effect on his behavior might this be expected to have?
4. Herbart declares moral worthiness to be the supreme aim of education. Do you accept this view? Give reasons for your answer.
5. What are the elements of sound moral character?
6. Besides leading the pupil to pursue a course of study regularly and systematically, what may the school do to educate the moral nature of the child?

1. Herbart's idea is that *moral character* is the great purpose of school education. Character building is the end of education, and all other things are subordinate. The child has a triple nature, and through this threefold power he is to take in the world of nature and man. Now the subjects of study will give knowledge; they will cultivate the emotions, but the largest effect will be upon the performing side of the child-nature. And this concrete side of consciousness is the basis of character—it is character. In the light of his moral revelation as it comes through his studies will his actions be performed.

2. Geography as a nature study will reveal the truth in nature and her laws. The student cannot fail to recognize principles that are eternal; and these principles recognized and verified cannot fail, in turn, to have their effect in strengthening his character.

3. It should lead him to weigh the acts that he

performs with regard to their probable effects, and so make him a more rational, self-directive creature.

4. Yes. The very nature of the human being points to moral worth as his destiny.

5. The recognition that the good self is absolutely obligatory. The conscious choice of good motives. The constant performance of acts carrying out good motives.

6. Direct his impulses so that a complete system of good desires will always be present to choose from. Lead him to *do by doing* and to *do by knowing*.

READING.

1. Show how a knowledge of the words *kite, fear, went, bread* and *make* will help the members of a second reader class to learn, without help from the teacher, the words *write, tear, bent, spread* and *awake*. 10
2. "The great end in reading is to give the child readiness in getting the thought out of printed and written language. If the thought is fully comprehended, the oral expression of it is comparatively easy." Discuss the above quotation fully. 10
3. Select some lesson well known to you and state the extent of *preparation* necessary to a class studying the lesson the first time. 10
4. Discuss the *presentation* of same lesson. 10
5. Discuss the *application* of same lesson. 10
6. Read a selection to the County Superintendent. 50

1. All the sound elements that enter into the words in the second list are in the first list. By recombining these known elements the new words are reached.

2. The first sentence states well the immediate end to be reached in reading work while the second states the fundamental basis for all true oral reading. There is some danger of placing the wrong kind of emphasis on the last assertion, and jumping at the conclusion that since it is true, practice in oral reading is not necessary. No greater mistake could be made. If it is held in mind that the end of all reading work centers around the idea of "comprehending the thought," the teacher will have the key to success in this subject.

3, 4 and 5. In the November EDUCATOR we commented on the general meaning of the terms used in this question. Owing to the fact that they are not generally used with a definite meaning attached, and owing to the fact that our available space for illustration in this issue is limited, we will attempt to present at length our understanding of these terms with extended illustrations in the February number.

ARITHMETIC.

1. Show clearly why it is better to use three objects of one kind, in teaching the number three, than to use three different kinds.
2. Show how the principle of appreciation can be used in the teaching of numbers.
3. Discuss the number six under the following heads: Preparation, presentation, application.
4. What is the net tax in a town whose taxable property is assessed at \$430,000, at 12 mills per dollar, 5 per cent. being paid for collecting?
5. How many feet, board measure, each board 18 inches wide, can be cut from a square log 16 feet long, 18 inches wide and 9 inches thick, allowing $\frac{1}{4}$ inch for each cut of the saw.
6. A physician bought 2 pounds 9 ounces of quinine at \$38 per pound, avoirdupois, and sold it in ten-grain doses at 20 cents per dose; did he gain or lose, and how much?
7. Show how a clear understanding of the fundamental principals in arithmetic is necessary to the mastery of ratio; of proportion.
8. $\sqrt{25 \times 50 \times 50 + 25^2 \times 50^2 \times 50^2} = ?$

1. By using three objects of one kind the unity of the subject presented is preserved.

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A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

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A JOURNAL FOR THE PROGRESSIVE TEACHER.

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No. 1.

THE NEW GEOGRAPHY.

PROFESSOR CHARLES R. DRYER.

THE prevalent and official view of geography held in Indiana to-day, is that it treats of the earth viewed in relation to the institutional life of man. I have been unable to discover the author of this particular formula, but the root of the idea undoubtedly lies in the *Erdkunde* of Karl Ritter, who taught geography at Berlin from 1820 to 1859. While Ritter did great service to geography by counteracting the tendency of Humboldt to include in it the whole of natural science, it is also true that his influence led to the other extreme, equally vicious, because it narrowed the science to a single relation and reduced it to little more than an adjunct to history. In a large number of American schools to-day, geography is still classified as "historical science," and a divorce between "geography" and "physical geography" is maintained, which is in itself absurd and destructive of all the higher values of the science. To characterize this view as "old-fashioned," antiquated and out of date, is to use very mild language. It looks like a wilful shutting of eyes to the scientific progress of the last half-century, of which geography has enjoyed its share. It sounds like a survival or an echo from the old geocentric theory of the universe, prolonging into the twentieth century the idea that the universe was made for man and has no meaning apart from him. Its implication is strongly teleological, and the problem which Ritter and Guyot attacked with such bril-

liant ability, was nothing less than to show how each continent has been especially designed to produce and foster a special type of human culture. The growth of modern evolutionary thought has relegated such problems to the limbo of "innocuous desuetude." They are seen to be, for the present at least, beyond human knowledge and ability, and the modern student prefers to devote himself to the purely physical problems. The center of gravity is shifting away from man to nature. Physical geography, enlarged and enriched by whole new sciences, is being restored to its proper place at the foundation, and modern geography is becoming more a natural than a historical science. A few recent expressions of opinion from eminent and, so far as may be, authoritative German, French and English sources, will serve to present the modern views.

The Third International Geographical Congress, which met at Venice in 1881, adopted the following resolutions:

(A) "The scientific object of geography comprehends the study of the superficial forms of the earth; it extends also to the reciprocal relations of the different branches of the organic world.

(B) "That which eminently distinguishes geography from the auxiliary sciences is that it localizes objects; that is to say, it indicates in a positive and constant manner the distribution of beings, organic and inorganic upon the earth."

Professor Hettner of the University of Leipsic, wrote in 1895: "The geography of to-day starts from the point of view of diversity in space, and aims at a scientific explanation of the nature of regions, inclusive of their inhabitants. Its task is to investigate the distribution of phenomena in mutual dependence."

Professor Neumann of the University of Freiburg, has this year declared as follows: "General geography deals with the general laws of the distribution of every class of phenomena on the earth's surface. Special geography describes and explains the various countries in their characteristic peculiarities of land and water forms, climate, vegetation, animal life, human settlements and their conditions of organization and culture."

Mr. Mackinder, reader in geography at the University of Oxford, has, of all men in Great Britain given most attention to the organization of geography and its relation to education. In his presidential address before the geography section of the British Association for the Advancement of Science last year he said: "The geographer is concerned with the *atmosphere*, the *hydrosphere*, and the surface of the *lithosphere*. His first business is to define the form or relief of the surface of the *solid* sphere and the movements or circulations within the two *fluid* spheres. The land relief conditions the circulation, and this in turn gradually changes the land relief. The circulation modifies climates, and these, together with the relief, constitute the environments of plants, animals and men. This is the main chain of the geographical argument. In the language of Richthofen, 'the earth's surface and man are the terminal links?'"

Professor de Lapparent of Paris, in his physical geography published during the present year, writes: "While ancient geography accords a preponderant place to all that concerns man, the new teaching not only discards that order of considerations, but claims to subordinate human action to

the influence of nature. * * * On the one hand it embraces the precise definition, *according to form and origin*, of all the homogenous units into which the surface of the globe can be divided. On the other hand, it inquires how these forms react upon those external physical conditions upon which all the surface activities of our planet depend, both in the mineral kingdom and in the organic world. It then completes its work by drawing a picture of the results produced by this combination of diverse elements, wherein human activity plays its large and proper part."

If it be desirable to condense all these views into a concise formula, perhaps none better can be found than this: Geography treats of the distribution of all terrestrial phenomena in mutual dependence. Or, to crowd all possible meaning into the word "science," *Geography is the science of distributions*. If this be too indefinite by reason of brevity, it may be expanded by specifying that geography is the science which deals with the mutual relations in space of relief, climate and life. This is essentially the same thought which Guyot expressed more figuratively when he said that geography views the earth as a living organism. It is only the legitimate development of an idea as old as Eratosthenes and Strabo, who aimed at the accurate location in space of every feature of the earth. Geography deals with space relations, history with time relations; therefore geography is in no sense a historical science.

The foundation of the geographic structure, or the first link in "the chain of geographic argument," is the new science of *geomorphology*, which undertakes to study the structure and origin of relief forms, much as the anatomist studies and describes the structure of the various organs of the human body. The second course in the pyramid of geography might be called *geophysiology*, because it is a study of the vital circulations which are taking place in the ocean and the air. The third course is

geobiology, which deals with the vegetable and animal elements of the earth organism. The last and crowning block, at the apex of the pyramid, is *geoonthropology*, or the science of the relations of earth and man. Each division postulates and rests upon all the preceding divisions, and each element in turn reacts upon all the other elements. Geography lays all sciences under contribution for materials, but no other science pretends to build these materials into such a structure. Every auxiliary science contributes a certain quota of brick and stone, but geography furnishes the ground, draws the plans, and erects with enduring cement a grand and imposing temple.

The special and peculiar instrument of expression in geography is the map, because a map shows the facts of distribution better than anything else can. The series of maps prepared by Mr. Gannett to accompany the Report of the Tenth Census of the United States illustrates to perfection the special function of geography. It contains maps showing the relief of the United States; the maximum, minimum, and mean annual temperatures; the mean annual rainfall; the distribution of metals and forests; the production of grain, cotton and cattle; the density of human population, and many others. Workers in many scientific fields contributed materials, but it remained for the geographer alone to make these maps and by their means to show the remarkable relations which exist between relief, climate, products and people.

Perhaps the most striking feature of the new geography is the prominence which it gives to the study of relief. It is not content with a superficial description of plains, plateaus, mountains and valleys, but recognizes the facts that these forms of the land possess a structure and have had a history; and, above all, that they cannot be truly seen, understood or described until they are studied in the light of their origin. The scientific geographer does not admit that there are any "dead forms" in nature. The surface of the

land itself is as truly undergoing a process of evolution as are the flora and fauna which inhabit it. The scientist sees as clearly as the poet that:

"The hills are shadows and they flow
From form to form, and nothing stands:
They melt like mist, the solid lands,
Like clouds they shape themselves and go."

This is the new science which the geologists of the last decade have created and now hand over to the geographers: a fitting tribute from the youngest of sciences to the oldest—the mother of all. *Physiography*, or the mutual reactions of earth and air, of relief and climate—*geomorphology*, or the science of earth forms, are some of the names by which it is known; but, under whatever name, it has become the foundation of rational geography. Those who hold to the dogma that every science must be fenced off from every other science by a thought-tight barrier may protest against this invasion, as they deem it, of the field of geology. But the fact is that geomorphology is a common domain held by both sciences as tenants in entirety. The geologist can read the past history of the earth only by a study of the forms and processes now in existence. The geographer can not understand existing forms without knowing something of their history. Both use the same material but for different purposes. As Mr. Mackinder has happily expressed it, "the geographer studies the present in the light of the past, the geologist studies the past in the light of the present." One is concerned primarily with the time relations of phenomena, the other primarily with space relations. Without a knowledge of the present the historian of the earth is helpless; without a knowledge of the past, the student of the present earth is badly crippled. The twin sciences of geology and geography are indissolubly united at their common foundation, and the failure to recognize this fact is the chief cause of the deplorable state into which the prevalent geography of the schools has fallen. The influence of the new science of geomorphol-

ogy upon geography is likely to prove far-reaching and favorable. Without it geography has been a pyramid resting upon its apex; a castle in the air without adequate foundation. The surface of the earth has been pictured and described superficially and without perspective. For want of depth and perspective, children are still being taught that a volcano is a burning mountain, that a mountain range is a row of mountains in line and that the Niagara gorge or Colorado Canyon was made by some great convulsion of nature. To say that all great elevations of land are mountains is as great a mistake as to say that all swimmers are fishes and all fliers, birds."

The new science of geomorphology possesses the great educational merit that it can be studied in the field; and the field is everywhere, or at least wherever the natural surface of the earth can be reached. There are very few schools within easy walking distance of which cannot be found a valley and a stream—that universal concurrence of a valley and a stream which has been the despair of the geologist for a hundred years. It is easy enough to account for the stream, but the valley has been a puzzle. After trying all other explanations and finding them inadequate, the very simple conclusion has been reached that the stream has made its own valley. This idea once grasped the way is plain. A careful study of even a very small stream and its drainage basin will reveal in surprising detail the processes which have been shaping the face of the earth ever since it rose above the sea. The universal progress of weathering, transportation, corrasion, erosion and sedimentation is seen going on under the very eyes of the children. The materials of the earth-crust, its diversity of structure and the evolution in miniature of nearly every feature on the surface of the globe are displayed in endless variety. Every landscape acquires a new interest and meaning. The student obtains from his own experience a basis with which

to correlate information about regions he has never seen. He has learned the alphabet in which nature has written her cuneiform inscriptions all over the face of the earth, and he can read her records. Such work as this takes geography out of the list of merely informational studies and gives it as much value for scientific training as any other science. The student who has had a taste of this will never again be content to cram facts, but will be likely to ask the sometimes awkward questions, what is the reason? how did that come to be so?

Along with this field work out of doors goes laboratory work, and every schoolroom can be a laboratory, consisting of actual daily observations of sun, stars and sky, of wind, rain and snow, of temperature, humidity and pressure. The geography of the air is more difficult than that of the earth, but the teacher who knows the subject can do a great deal toward giving pupils a correct understanding of weather and climate, and can avoid the pure mythology which too many text-books contain upon this subject. The relation of plants to soil and atmosphere is within the grasp of very young pupils, and is as easy to understand as that all animals depend upon plants for food. Having laid such a foundation, the student is prepared to see something of the crowning relation of geography—that of man to his whole physical environment; and without that foundation this relation is meaningless, because one of its elements is wanting. Herein lies the chief failure of the old geography, that it attempts the impossible. It begins at the top and builds in the air. The relation of the earth to the institutional life of man is one of the most complex relations of science, and one hazards nothing in saying that not one student of geography in a thousand has had sufficient training in seeing simpler relations, or knows enough about either the earth or human institutions to see *their* relations. Geography, studied in logical sequence and by scientific methods becomes in turn one of the indispensable foundations of history, sociology

and political economy. It bridges the whole space between the sciences of nature and the sciences of man.

The teachers of the United States are specially fortunate in having the organization, aims, methods and spirit of the new geography clearly set before them in the report of the Conference on Geography to the Committee of Ten. If this paper accomplishes nothing more than to call renewed and serious attention to that report it will serve the writer's purpose. The whole subject is there presented with a logical power and richness of detail which are unrivaled. The key-notes of that Report are *field work* and *scientific explanation*. Observation, reproduction, reasoning, are the very essence of the new geography. The report seems to have been written in the shadow of two convictions: first, that its recommendations are revolutionary; and second, that to put them into execution is, under present conditions, a matter of extreme difficulty. Of all school subjects, geography has partaken least in the recent renaissance. Its materials and methods are scarcely better than twenty years ago. The only natural science which forms a part of every school course is taught less scientifically than any other subject. If the writer were to speak solely from his own observation and experience, he would say that the general results of geography teaching in the grades are next to nothing except a mild dislike for the subject. Wherever the teaching is an attempted cramming of facts from the text-book, dullness and disgust are inevitable consequences, and long before the high school course is completed the facts have all evaporated. A raw country boy with only the most elementary training is a more promising student of scientific geography than the average high school graduate. The unconscious education of country life counts for much, the fact of sex counts for more. That the average boy has seen a great deal more of nature than the average girl is the natural result of their respective habits of life. The fact that nearly all the

teachers of geography are women is a serious bar to the growth of better methods; because as a rule, women have had very little experience in the field. It is useless to send a class into the field with a teacher who can see nothing when she gets there.

Another serious difficulty in the way of better methods of teaching is the want of opportunity for the teacher to obtain special training in geography. Very few colleges and universities in this country recognize the existence of geography as a distinct science, but there are some notable exceptions to the rule. Harvard heads the list, where the department of physical geography under the direction of Professor Davis has become a veritable fountain head from which good influence has penetrated in every direction. Cornell, Chicago, Princeton, Yale, Rochester, Leland Stanford, Oberlin and Colgate are good secondary centers. As for the Normal schools, they are, with few exceptions, still in the dark ages upon this subject, and apparently likely to remain strongholds of conservatism.

The outlook for progress in this direction is not wholly without encouragement. Harvard, Chicago and other institutions offer summer courses in geography which are fairly well attended. A course of five lectures on physical geography by Professor Brigham of Colgate at the Cook County Institute last summer, was attended and appreciated by four hundred teachers. That the new geography is making some progress may be judged from the text-books. Guyot's and Houston's contain about one page each upon the subject of geomorphology, the Eclectic one hundred pages, Tarr's two hundred pages, while the French geography of de Lapparent, the most advanced along the new lines, devotes three hundred pages to this subject. Good literature and personal training are becoming more available every year, and no teacher in search of them need fail to find both. It is here that school officers and superintendents can do more than any other influence. P

Davis of Harvard, in reply to a request for a teacher writes: "It is only occasionally that a student here takes enough geography to gain strong recommendation for teaching, because employers, thus far, have given no weight to geographical preparation for a geographical teacher; anyone might do that sort of work." If employers of teachers would require a preparation in geography equivalent to that required in literature or history, a demand for such preparation would be created, and higher schools would soon furnish a supply equal to the demand.

This paper has aimed to set forth the following thoughts concerning the new geography:

1. Its philosophy is not teleological, but evolutionary. It is no longer anthropocentric, but geocentric.

2. The new geography is scientific and rational. It studies not only facts (which are stupid things), but the relations between facts.

3. The new geography has been enriched by the addition at the bottom of the new science of geomorphology, and is thus brought into close alliance with geology.

4. The new geography forms a connected chain between the purely natural sciences and the humanities; but being prepondera-

tingly a natural science it must adopt the scientific or laboratory methods of study and teaching.

5. Thus the new geography becomes able to give, not only information, but scientific training; the ability to discover facts and to see their relations. It converts geography from a lifeless bore to a living interest, from a dead grind to a delightful activity. It takes it out of the list of memory or "useful knowledge" studies, and plants it in the quickening current of modern scientific thought.

6. It is only when built upon "the solid ground of nature" and inspired by the scientific spirit that geography can hope to solve the problem of Ritter and Buckle; the problem of the relation of man to his physical environment, and thus become in fact the physical basis of history and sociology.

7. Special means must be adopted to prepare teachers for this kind of work. On account of lack of special training and lack of facilities for obtaining it, educational progress in this direction will be slow; but the new geography has come to stay, and teachers and school officers will do well to recognize and welcome it.

INDIANA STATE NORMAL SCHOOL.

THE CURVE OF MENTAL DEVELOPMENT IN SCHOOL CHILDREN.

SUPERINTENDENT NOBLE HARTER.

THE presentation of a theme in the general topic of child-study, which has been assigned to me by your executive committee, is far from being an easy task. Child-study has assumed gigantic proportions in the realm of education, and has enlisted earnest and painstaking research by many prominent educators and deep thinkers throughout the world. Investigation has been instituted along almost every conceiv-

able line, so that it does not seem possible that I may be able to present anything essentially new for your consideration.

It is the aim and purpose of child-study to discover and formulate fundamental truths respecting the nature of growing mind and how it is affected by its environment, in order that the efficiency of the school may be increased thereby. When the curve of increasing knowledge appears to approach

pedagogical truth rapidly, there is no lack of zeal on the part of those who affect an interest in educational matters; but, when it becomes more and more level, where much labor and patience are required, interest soon wanes. There is a tendency on the part of some teachers to be attracted by new or curious lines of investigation, to expect that important pedagogical truths must reward every attempt to obtain them, and to be over-quick to believe that they have discovered facts which disclose important laws of mental activity. Nevertheless, every educator is able to help or hinder the cause of child-study according to the way in which he employs energy and patience to push forward systematically and faithfully into the problem which he has undertaken.

It seems clearly evident that any advancement made in increasing the effectiveness of our educational system, must come through method as determined by a clearer comprehension of the child's essential nature. One of the most reliable and promising means employed to obtain this more intimate knowledge, deals directly and experimentally with the pupil. When the general design of the study has been determined, the details are planned and executed with scientific care and exactness. The data thus obtained are painstakingly recorded, analyzed and systematized, and the results interpreted as to their bearing on educational matters.

Among the many problems which may be studied in this way, probably no one is of more direct interest or vital importance to the teacher than that of the nature of mental growth in school children. Since the school exists for the special purpose of facilitating development in intelligence and mental power, growth is the real test of its worth. It is absolutely necessary that the nature and extent of mental progress should be estimated from time to time, in order that the phase of the development of subject-matter may be adjusted to the stage of the child's advancement.

Surely every teacher has experienced the

difficulty, if not impossibility, of more than roughly approximating the real progress which the child has made. Many widely differing devices are employed for testing and measuring this growth in mental power and attainment, but all are far from being perfect or even satisfactory. It is apparent that even where the pupil's attitude toward his work is practically uniform, his progress is not at all constant from day to day, or from month to month. The pupil who was dull last year may be much improved this year. It has often happened that the proverbially thick-headed boy who was always lowest in his class, and whose future was considered anything but promising, has astonished his old teachers and associates by winning a high place as a student in college, or by being eminently successful in the intellectual world. In view of these facts, so briefly stated, it is believed that a knowledge of the nature of intellectual advancement as obtained through careful experimental observation, can scarcely fail to be of material advantage and practical benefit to the progressive teacher in assisting him in the performance of a difficult and responsible phase of his work in the school.

During the past three and one-half years, I have been engaged in making a series of experimental studies in the telegraphic language, under the direction of the department of philosophy in Indiana University. A number of the results so obtained seem to point to facts of pedagogical value, one of which may not be unworthy of your consideration at this time.

The great difficulties in the measurement of mental growth are the complex nature of the studies pursued, and their interconnection with the whole content of mind. The telegraphic language appears to be well adapted as a device for testing the progress of the learner with a high degree of accuracy, owing to the extreme simplicity of the elements of which it is composed and the exactness with which they can be measured. The study of this language is as nearly iso-

lated from other lines of mental occupation as seems possible in any case, for the learner has only to become expert in the association of the language already known, with certain sound groups which are differentiated solely in respect to time.

Telegraphy is so simple that the student can learn to send and to receive some of the easier letters even during the first lesson. Through practice he becomes more proficient until he is considered able to take charge of an office. It was the design of this study to investigate the nature of the progress which students make in mastering this language. If it is true that advancement here does not differ materially from that made in other subjects, this line of research should be helpful to educators in many respects.

Answers to a series of questions submitted personally to a large number of telegraphers of widely varying degrees of proficiency and terms of experience, showed conclusively that there was little difference of opinion respecting the general nature of the learner's progress. Estimates of the advancement of the typical student were sent by a number of schools of telegraphy, in three of which it was specially arranged to make a series of tests upon which to base their conclusions. In addition, each of two operator friends who became interested in the investigation, tested a student regularly from the beginning of practice until he was fairly competent to do the work of an operator.

The curves plotted from all these sources agreed substantially; and, in the important parts, the resemblance was striking. But in order that the typical curve should be made as reliable as possible, I undertook the experimental study of two pupils of the Brookville city schools, who wished to learn telegraphy and promised regular and faithful practice. One was a young man age 17, and the other a young lady aged 16. The practice and tests were carried on at the Western Union telegraph office, and were

continued until both students were fair operators.

Every care was taken to make the experiments scientifically accurate and reliable. The pupils practiced regularly and were thoroughly tested every week. The material used in making the tests was new each time, but was carefully selected so as to present no unusual ease or difficulty. The curves plotted from these data corresponded in every important particular with each other and with those drawn from the other sources. It is believed that the curves which are shown in the charts are reliable, and represent approximately the characteristic advancement of mind in becoming expert in telegraphy. The progress in learning to send is far more rapid and less significant than that in receiving which requires a much greater expenditure of energy. Only the curve of sending is shown in the charts.

Chart I represents the progress of the typical student, and Chart II that of the young man mentioned before. The vertical lines show the number of months of practice; the horizontal lines, the speed expressed in terms of letters per minute. The heavy horizontal line represents approximately the slowest rate at which ordinary business is transacted on the main line. It will be seen that the receiving curve rises somewhat rapidly at first, but soon becomes more and more horizontal until there seems to be no progress at all. This plateau extends quite a distance, but is terminated by a relatively abrupt rise which soon crosses the slowest main line rate. Above this the ascent is gradual until the student becomes a full-fledged operator.

By far the most significant part of the receiving curve is the long level portion or plateau. It is important that this is located but a short distance below the easy sending rate of many operators; otherwise it would not have been so well known among telegraphers, or so easy to study. The working of a sounder at a rate only a little faster than the student is able to receive, is just as

PLATE I.

TELEGRAPHY- RECEIVING CURVE OF THE TYPICAL STUDENT.

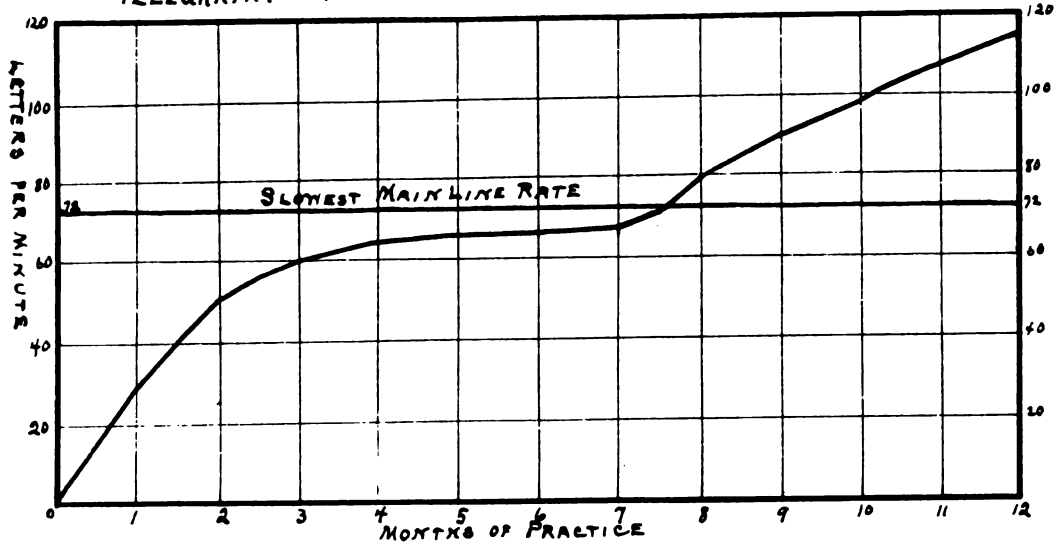
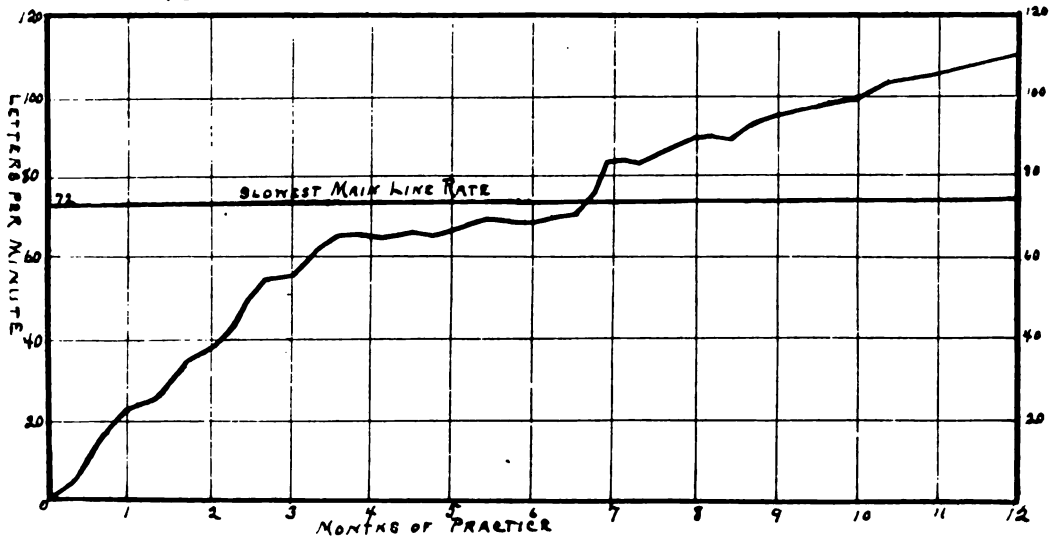


PLATE II.

TELEGRAPHY- RECEIVING CURVE OF STUDENT W. J. REYNOLDS.



much an unintelligible clatter as it was when he began learning, except that he may now and then recognize some familiar word which he has learned to grasp as a sound-whole. Consequently the plateau is noted as a critical period in learning telegraphy.

A large percentage of students reach the "sticking place," become discouraged when weeks or months go by without any perceptible increase in skill, decide that "it is not in them," and quit in despair.

The length of the plateau varies in indi-

vidual cases from a few weeks to many months. Only one operator interviewed claimed that there was no stoppage in his advancement when learning, but his office companions thought that his statement was due to forgetfulness induced by personal vanity. On the other hand there is good ground for the belief that persons of no mean ability in other respects, can never rise above the plateau. In one case reported at the Western Union office in this city, a young man who was particularly bright in many ways, practiced telegraphy diligently from the time he was 16 until he was 21, but was unable to get beyond the "sticking point," although he was helped and encouraged in every way by the operators with whom he was very popular. A number of cases are noted where students ultimately became skillful men, although they had spent from one to two years on the plateau. It is believed that three months is about the average length of the arrest in measurable progress, and that there are few young persons who may not become fair operators if they exercise patience and diligence in practice.

The plateau is a psychological problem which is far from easy to explain satisfactorily. It appears evident that the student's mind must gain a higher mastery of the details of the language in order that he may grasp the sound groups as larger wholes; a kind of mental short-hand process which requires time and practice for its perfection, not wholly unlike certain insights employed to facilitate mathematical calculations. At first the learner's effort is directed toward distinguishing certain letters, after a time familiar short words are heard as wholes, and finally quite a vocabulary is acquired in the same way. In the highest phase the telegrapher is scarcely conscious of mere words, but they seem to be recognized in a context as representing thought.

As before stated, it is not believed that this arrest of measurable progress in the student of telegraphy is unique. It is seen in

a greater or less degree in those studying any subject: in the boy or girl learning music, typewriting, stenography, or a foreign language; in the child learning to talk, to read, or to write. Whatever value this curve may possess, lies in the nearness with which it typifies the laws of mental growth. It seems to indicate that the moves which mind makes in reaching a high state of development in any particular subject, may be divided into several phases. In the first of these, advancement is relatively rapid, slowing down into an apparent standstill in the second, rising somewhat abruptly from the level of mediocrity in the third, and ascending more slowly in the last phase to the highest point attained.

Many experienced teachers feel that this is a true representation of the growth of children in the different studies pursued in our schools, varying considerably, of course, with native ability and personal attitude toward the work. Those engaged in presenting a single line of school work observe that pupils generally make rapid progress in the elementary phase of the subject; that later on there comes a time when, in spite of much application, advancement lags or seems to be at a standstill, and the disposition is to give up trying because of the feeling that the limit of personal ability has been reached; and, that through patient but energetic work, there finally comes a higher grasp of the real content of the study. It is significant that the attitude of the pupil has much to do with the length of time during which his advancement is seemingly arrested. At least the experience of many teachers leads them to feel that this unfavorable period is materially shortened by the pupil's persistent effort in spite of discouraging experiences.

The mystery of the plateau in this curve seems worthy of further and more careful experimental study. The silkworm passes through various stages of growth, apparently reaches maturity, spins its shroud and seems to have ended its career. Notwithstanding

this apparent stoppage, a most important kind of activity is going on within the cocoon, unseen by the observer and unconscious to the creature itself, but the one necessary to the realization of the silkworm's highest nature. When the necessary structural modifications are completed, vigorous activity becomes manifest and the creature enters upon its highest state of development.

May not this metamorphosis in the physical world be analogous to mental transformation? We do not believe that there is no actual progress during the period represented by the plateau, or that it is an uninteresting and unimportant stage through which the learner must pass somehow, but that it is a critical educational epoch wherein there is the greatest need of a wise and skillful teacher to direct and inspire the child in its struggle to realize its highest self. While there may be no progress which the teacher is able to measure or of which the child itself is conscious, it seems reasonable that important cerebral changes, which are necessary to its entering upon a higher plane of knowledge or skill in the subjects studied, are being made; and that as soon as these are completed there will be evident mental advancement.

The higher parts of the curve of progress in telegraphic skill are hard to obtain experimentally, because most learners are content to rest when they become fair operators, and to practice only as their duties require. Under favorable conditions it takes about three years to reach a high degree of skill, although this period varies considerably in individual cases. Thus it would require long practice and regular effort such as would be hard to obtain, in order to make the study reliable. However, one fact well known among telegraphers, which relates directly to this higher phase of advancement will be stated, because it seems to have an important pedagogical bearing on the nature of mental evolution.

It frequently happens that an operator

has served for a number of years in an office where the volume of business was small. He has not always proved himself competent to do even this small amount of low-grade work, for several years he has made no advancement in his profession, and was generally recognized as a "plug" or incompetent operator. But, owing to some emergency such as frequently arises in railway service this telegrapher is suddenly placed in an office where a much higher grade of service is required. Through ambition or necessity he makes a heroic effort to do the work demanded of him; and, as a result, soon becomes a skillful man and gives far greater satisfaction in the more difficult grade of service.

It is not in telegraphy alone that enforced increase of practice under severe mental strain, plays an important part in enabling the individual to reach the highest exercise of his ability. There is a strong tendency among teachers to rest content with a low degree of professional knowledge and skill. Year after year many seem quite satisfied with the same low grade of license obtained with much seeming difficulty, and with whatever position the authorities can be induced to grant them. The fact that they have a severe struggle to retain even a very humble place among their associates, seems to discourage a voluntary attempt to reach a higher plane in their profession. This is really the plateau through which all must pass in reaching a high degree of skill in the teacher's art; but it differs notably from the one in telegraphy, in that the applicant for the operator's chair must have passed through the struggle necessary to becoming proficient in the art of his craft, while the novice who not only has had little contact with the critical stage of preparation, but is unconscious of any definite lack of it, may easily obtain the difficult and responsible position of teacher. Through vigorous and resolute action on the part of those in authority, such teachers have been led in some places to realize that they must rise to a higher

point in the professional scale if they expect to retain their places in the school. Many who are here to-day will bear witness that the mental struggle, induced by an inexorable demand for a higher degree of teaching knowledge and skill, has resulted most advantageously in promoting the welfare and efficiency of the school.

Effort seems to be the central thing suggested by this study. If the child's effort is properly exercised and directed, the teacher may feel sure that the progress of which it is capable at that time is being made, although the school test fails to disclose it. We all agree that the child has an inherent tendency to be active in seeking to know its environment, but it is a question as to how far this disposition tends toward directing its activities into the best channels. In the cases of inefficient operators and unskillful teachers mentioned, it was compulsory application stimulated by indirect interest,

that was responsible for the marked change in ability.

While, without question, exorbitant demands have been made on the energy and effort of children in some schools, it is scarcely more questionable whether there is an undue tendency in many of our modern schools to represent the other extreme. Much truth is contained in the old saying, "There is no excellence without great labor." Aside from the question whether true culture can be gotten in any other way, is it harmful that children should be led to realize this fact through the proper direction of their work in the school, or is it soon enough for them to find it out when they become men and women? The pupil cannot reasonably hope to get something worth having for nothing. In fine, it is *supreme* effort that educates.

"The gods give us all good things for labor."

BROOKVILLE, IND.

THE STORY OF A BOULDER.

"SERMONS IN STONES."

"Has nature, in her calm, majestic march,
Faltered with age at last?"

PROFESSOR D. W. DENNIS.

Preliminary.

Miss B. is the teacher of a small class in a private school in the city of Richmond. She believes

"There are more things in Heaven and earth, Horatio,
Than are dreamt of in your philosophy."

She is known as a successful, inspiring teacher wherever she is known at all. I recently asked her the secret of her success; with a twinkle in her gray eye she answered:

"Should you ask where Nawadaha
Found these songs so wild and wayward,
Found these legends and traditions,
I should answer, I should tell you,
In the bird's nests of the forest,
In the lodges of the beaver,
In the footprints of the bison,
In the eyrie of the eagle!
All the wild fowl sang them to him
In the moorlands and the fenlands
In the melancholy marshes."

Again I have heard her say: "In dark caves the fishes are blind, not because they were not born with eyes, but because they had no chance to use them; it is the teacher's duty to let the child see and hear and handle all that is possible."

"You believe then in Nature Study?" I questioned.

"Yes, if Nature Study means letting the child see things and learn from them their meaning; but, if a ramble in the woods means a few more things to define, I do not believe in it.

"The school-room should seek to *widen* the child's sense environment; if he has grown up in the country it should place before him, if it can, the life and activities of the city; but if he was born among these, then it should lead him often to the country and bring the country's products to the school.

"It should seek, also, to *deepen* his sense environ-

ment; the same stone or bird or brook may for the hundredth time be visited, if from each new visit the child returns with a new confidence that

'In Nature's infinite book of secrecy
A little can I read.'

"Shakespeare was born in a country village in the midst of England's most beautiful scenic district. It is said that two Englishmen wagered as to which could name the most beautiful walk in England, and one mentioned the walk from Stratford-on-Avon to Coventry, and the other from Coventry to Stratford-on-Avon, and that both won the bet. Shakespeare's family—his father, grandfathers, and Uncle Henry—owned farms in the neighborhood. For twenty years of his Stratford-on-Avon life Shakespeare was guest at these farms. Before he had written a line he had lived every kind of life which an Englishman of his time could live. 'It requires,' says Patterson, 'a hundred closely written pages to copy Shakespeare's references to nature, her life and her phenomena.' Concepts which enter by the senses are the food of wisdom. The man who has seen many things, and who can see into things, is a trained observer, and rational guidance along these lines cannot begin too early. A varied life-experience will not every time make a Goethe or a Shakespeare; but a Goethe or a Shakespeare cannot be made without a varied life experience; and wide, repeated, intelligent contact with things will greatly improve every one. Melchthal's lament over his blind father has been translated into all languages and told everywhere:

'To die is nothing; but to live and not to see,
That is a misfortune.'

"The savage and the astronomer look out on the same sky: one has seen it as often as the other, and yet, how blind is the one to much which the other sees? An aimless outing may do much; but it may also, and it mostly does, do nothing. I only beg for the outing which has a purpose and which is guided by a teacher who can draw the line between what the eye and what the mind can see: if outings like this could be made by all the schools often, to-morrow would be able to see much to which to-day is blind. The oft repeated command of the teacher of Nazareth: 'He that hath ears to hear, let him hear,' supposes that it is the mind, not the ear, that hears.

'The works of God are fair for nought,
Unless the eye in seeing,
See hidden in the thing the thought
That animates its being.' "

The Problem.

A few hundred feet above the eastern fountain in Glen Miller near Richmond, Indiana, there is a large boulder of stratified granite, another name

for which is gneiss. This boulder has veins of quartz running through it in several different planes; it is rounded at all its angles, and smoothed on one side and weighs about 100,000 pounds. There are no quarries of such boulders nearer than Canada. There are, however, there very extensive strata of exactly similar rocks. How was this boulder brought from its Canadian to its Glen Miller home?

Saturday, the second of January, was a very warm winter day, and Miss B. and her class went to the Glen Miller Boulder for the first of a series of lessons on this question. It seemed as stable as the earth itself. That any force was ever at work on the earth which could have brought it from a home 300 miles away, was, within the recollection of the writer, a story so unlikely that only one man in America believed it.

Miss B., who seemed in the presence of this huge mass of rock overwhelmed by the effort it would cost to make its story live in the minds of her pupils, said, "we must first consider other similar facts;" opening a hand atlas she showed that Indiana lies south of the copper mines on Lake Superior; she then produced a small boulder of copper ore, which she said was found about two miles from the city; that such pieces of ore are often found in Indiana, especially the western part north of Bloomington; and also in Eastern Illinois. She then took from her basket a similar piece of pudding-stone which she picked up once on a trip from Wood's Hall, Massachusetts, to Boston. When she arrived at Boston, she found on *Dorchester Heights an original quarry from which it might have come; and scattered everywhere on her journey she had seen many large boulders of the same pudding-stone, along with hundreds of other kinds, all of which had their homes in the North. She opened the atlas at the map of Europe and pointed out that Norway boulders are to be found in England, having crossed the German Ocean to get there; that boulders from Norway and Sweden have crossed the Baltic Sea,—and are scattered over the plains of Central Europe. She turned to the map of Switzerland and pointed out the track of Alpine boulders down the valley of the Rhone, across Lake Geneva and the plains of Switzerland, and over the Jura Mountains into France. She turned to the map of Northern Italy and pointed out the boulder journey there, across the lakes and far into the plains beyond. "In all these instances," she said, "the boulders have been carried from the cold country to the warm;

*Just how this pudding-stone came to be on Dorchester Heights and Milton Hill and Roxbury is fully explained by Holmes in his *Dorchester Giant*, which the reader will find on another page.

and for Northern Europe and North America all of them have been carried, approximately, from north to south. Great boulders have been carried from the North across Long Island Sound on to Long Island, and across a similar arm of the sea to Martha's Vineyard;" and she took from her basket a variegated match-safe which she said was made from the many-colored drift clays, which, together with huge boulders, have been carried from the North to Gay Head—the western end of the Island of Martha's Vineyard.

The wells we have bored of late years for gas here in Indiana have familiarized us with what is called the drift—a loose, unstratified, or imperfectly stratified boulder-containing soil which covers the northern states down about to 39° of latitude. This is often 200 feet or more thick, and all of it with the boulders it contains came from the north.

"Before coming to Richmond," said Henry, who had formerly lived in Middle Tennessee, "I never saw a pebble like these in the stream below the fountain, in my life; do they have the same history as the boulder and what you call the drift?" "Just the same," Miss B. replied. "In many places north of here no rocks can be found at the surface except pebbles and boulders; this is true only a few miles distant in northern Wayne county. In most places south of the Ohio River, only angular pieces broken off from rock masses can be found; but within a mile of Richmond great quantities of both kinds can be found; the pebbles, cobblestones and boulders, however, here and everywhere are on top of the bed rocks. The rocks along the river here, you know, are in beds; that is, they are stratified, were made just where we see them now; the river has worn a channel in them 75 feet deep or more. At the foot of all these stratified bluffs there are angular pieces of stone which lie just where they fell from above; but the pebbles came in the drift from the North, and were worn round on their journey.

"It is easier," Miss B. continued, "to account for all these boulder-journeys taken together, than to account for a single one of them; but in order to understand them we will have to know something—(a) of the growth of the earth and of North America, as the astronomers and geologists have given it to us; (b) a series of great investigations conducted in the Alps by Tyndall, Agassiz and Guyot; (c) of the discoveries made by soundings and studies in the islands of the Pacific by Darwin and Dana; (d) of a coast survey of the United States made from 1880 to 1884. But the things these men have learned are as simple as they are great, and we shall, I know, be interested in them all."

The Solution (a).

Miss B. continued:

"Nothing transcends for beauty or glory the starry sky. The Milky Way spans its circumference with its divided track; here and there all over night's limitless expanse, hazy blotches of sky may be seen; these have been called nebulae; when Galileo first turned his little telescope to the sky he was able to resolve some of these milky patches into stars, but he discovered other and more numerous ones which he could not thus resolve. With every improvement in the telescope, from Galileo's time until now, new so-called nebulae have been resolved into stars, and others before unknown and as yet unresolvable, have been seen. This led many men to think that there are no real nebulae—real cloud masses—but that all are made up of stars so distant that their lights blend.

"In 1800, however, Fraunhofer began, and in 1860 Bunsen and Kirchhoff completed, the invention of the spectroscope—an instrument which is able to reveal the difference between nebulous masses and stars, whether they be near or far. We now know that there are many nebulae in the sky which no telescopic power can resolve into stars. These nebulae are embryo systems of worlds, and astronomers now tell us that all worlds and systems grew, and they mark down the stages of world-life; Jupiter, a rollicking boy; the Earth, a sober man; Mars, frosty with winter; the moon, pale, passionless, cold—a dead world.

"In the growth of the earth many phases are recognized and have found their way into our literature, into our school-books.

Owen Meredith says:

'The earth on whose peaceable breast we repose
Unconvulsed by alarms once confused, in the throes
Of a tumult divine, sea and land, moist and dry,
And in fiery confusion commixed earth and sky;
Time cooled it, and calmed it, and taught it to go
The round of its orbit in peace long ago.'

"This cooling and calming left North America with her crest above the waves. We do not exactly know where this crest was, for it was all worn out. It must have been far to the North, however, for the *debris* which resulted from wearing it out extends in a V-shaped mass from Detroit to Labrador, and from Lake Erie to the Arctic ocean. The fire-wrought crest must have been somewhere north of this V. The primitive crest was made of almost, or quite, the hardest and most enduring rock masses of which we know anything—quartz, feldspar, mica, hornblende, etc. No sooner had it lifted its head above the waves than Neptune began a systematic assault on it all along

the coast line, which he never permitted to be broken by a truce. He was aided in his devastation by wind, rain and frost; never wearying and rarely resting, these agencies constantly made new features in the face of Ancient America until, beginning from its seaward aspect, they had worn it out. The quartz was ground into sand; the mica was scaled into plates and grains; the feldspar was broken, here into fragments, and there it was wasted by chemical action until it became clay. The waves in their ceaseless play carried the fragments seaward and assorted them; the fine clays they carried farthest out; next came the finest sands, then the coarser sand, gravel and fragments of stone.* In accordance with an orderly habit of old ocean, all these were laid down in regular layers. Century in and century out the work went on for how long no one can guess; all we know is that it was long enough to stratify the granitic fragments of our first continent to a thickness measured at all points of outcrop, of at least eight miles in the Canadian regions above described.

"Pluto, maddened that his aerial realm was being so hemmed in, straightened himself in his fiery home with a force that shook the whole round earth. He heaved and lifted over an area as big, at least, as America, and our stratified granite to the north he folded into ridges and raised high up out of the ocean. The heat from within and the pressure from above solidified our stratified granite until it was a rock almost as hard as the one that first came from the smithy of Vulcan.

"When the smoke of battle subsided it was found that America was far larger and higher than before. Pluto was decidedly on top. And yet it was a waste of waters over almost the whole of the United States; the sea, however, was not so deep over Southern and Western North America as it had been before. Ages now go by; later we will study these ages one by one; just now we must summarize; Neptune calls life to his assistance in earnest; he covers the continent over every coast and over shallows thousands of miles in extent with layers of shells of great thickness.

Emerson questions—

"What oldest star the fume can save
Of races perishing to pave
The planet with a floor of lime?"

"He sends his rain to sprouting forests and our coal measures are beckoned into existence. But

An experiment easy of performance will show that matter suspended in fresh water is quickly dropped when it reaches the sea. Fill two bottles with water; make one of them briny like sea water; put the same amount of soil and sand in each; shake them up and notice how quickly the salt water drops its sediment. This beneficent arrangement prevents the waste of land by causing sediment to be deposited near shore.

how like the patience of the Infinite the rate at which they come. During much rattle of small arms along the picket line of the forces of fire and water, during which the United States were often out of, and as often, save one time, in the water, the continent grew in its eastern part to almost its present dimensions. This growth was celebrated toward the approach of continental manhood by a great upheaval, which left as its resultant the Appalachian system of mountains.

"All this while our stratified granitic rock in Canada, it must be remembered, was resting in peace, except that wind, rain, and frost claimed from it their annual tribute, and it was worn thus into ravines, undulations, gorges, and cañons, so that it hardly knew its former self.

"We must leave the lesson for this time, but the stratified granite will interest us again if we are to continue our story."

Miss B. closed interrogatively, and as we started for the street-car Mary observed: "There is so much to learn that is of interest about man, God and life, and this is so beautifully presented in the exhaustless fields of history and literature, and the story of a stone seems to be so long and complex, it appears to me we can ill afford the time and effort to learn it."

"All roads lead to Rome," replied Miss B; "you might say the same thing of a plant: and yet your poet, Tennyson says—

"But if I could understand
Root and all and all in all
I should know what God and man is."

"Goethe studied rocks for many years; gave a voice to one of them in his summer garden at Weimar to speak his love of all nature.

Whittier, another of your poets says—

"Step by step since time began
Has been the steady gain of man."

Shall we omit an important step in this gain?

"As for your history, it is true that every state covered by the drift voted for McKinley, and the economist could have a harder task than to show why. Steadily since the time of Werner, history has been learning that soil has been one of its directing forces.

"Nothing useless is or small."

"I quite agree," said Mary, "that the boulder is not small." "Nor useless" said John. My father walled his cellar with boulders."

"Every milldam along the stream is held by boulders," said Earnest. "And they line every gutter in the city," said Emma. "And the material for all our gravel roads came with the boulders," said Edward, "and all our sand for plastering and cement, and our clay for porcelain, bricks, crocks, flower-pots, tile, etc."

"How about your modeling, Mary?" asked Miss B.

As we mounted the car it was concluded that our divinest poems in stone are first modeled in clay, and it was unanimously resolved to continue the lesson in doors in February.

EARLEHAM COLLEGE, RICHMOND, IND.

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS.—XII.

CONSUMPTION.

Consumption is, in many respects, one of the most important economic subjects to be considered. The ultimate aim of all industrial activity is the production of something that will satisfy human needs. This being true, it is as important to know how to use wealth (in order that it may bring the greatest good), as it is to know how to produce it. Human happiness does not depend so much on the amount of wealth consumed as upon the right use of it.

Under this division of political economy, will be discussed those principles which should guide us in the use of wealth. These principles should be understood by every one, since we are all consumers if we are not all producers of wealth. In a short sketch, we can only touch on a few of the main facts.

Economically considered, a thing is consumed whenever its form or properties are so changed that it cannot be restored to its former condition. Forests are consumed when the trees are used for fuel or are converted into lumber. The wood cannot be trees and lumber at the same time, nor can the trees be restored when once they have been sawed into boards. Lumber is consumed as lumber when it is made into furniture, and the furniture thus made is consumed when it is worn out by use. The wheat which the farmer sows is consumed, although it may produce thirty fold more wheat. The miller consumes wheat to make flour, the baker uses up the flour to make bread, and the bread is consumed to satisfy a want. Each change is an act of consumption.

A distinction should be made between the consumption and the destruction of wealth. When wealth is consumed it either satisfies a want or contributes to the production of other wealth. When wealth is destroyed, it results in no benefits. The tree, if consumed, may finally produce a beautiful piece of furniture or a useful machine; but if burned by a forest fire its values are lost. Fire, wind, and water annually destroy vast amounts of wealth. The destruction of wealth is usually accidental.

Consumption may be immediate or gradual. The food we eat and the fuel we burn are con-

sumed immediately; while the clothes we wear, the furniture we use, the houses we live in, are gradually worn out. The machine that is slowly worn out by use is as truly consumed as the fuel which is burned to produce the power which runs the machine.

Consumption may be for the purpose of producing other articles of wealth. Many things of value must be consumed that things of greater value may be produced. Grain must be sown that more grain may be raised. Fuel must be burned that heat and power may be generated for use in the production of wealth. Food must be eaten that the strength of man and beast may be maintained for service in production. Wood, iron and stone are consumed that houses, furniture and machinery may be made, and these may be consumed in the process of producing food, clothing, etc.

SOME RULES GOVERNING PRODUCTIVE CONSUMPTION.

It is the purpose of production to create wealth, and since wealth cannot be produced without using up other wealth, it is evident that wealth will not increase unless the new product is of greater value than the wealth consumed in its production. If a commodity worth one hundred dollars can be produced at a cost of fifty dollars the world is fifty dollars better off; and it is bad management to consume seventy-five dollars in the production of the same amount.

As little wealth as possible should be used in producing a given result. (This is one of the important problems of production.) There is a limit to the amount of wheat that it is profitable to sow to the acre. To sow more than this would be waste. Builders estimate with great care the amount of materials necessary to make a building.

The value of the materials used should be no greater than is necessary. It would be folly to build the walls of a house, which are to be covered with plaster, of pressed bricks or cut stone. The piano maker does not think of making the entire woodwork of the instrument of mahogany. Cheaper woods are better adapted for many of the parts. It should be remembered, though, that economy in the use of materials may be carried so far that the finished product may not be worth the cost of making it. A cart wheel made of pine would be of little value, and yet the cost of making it, aside from the difference in cost of materials, would not be very different from one made of oak or hickory.

All the values of the materials consumed should be used. A careful study of some of the great industries will show how completely this may be done. A visit to a petroleum refinery, a starch works or glassworks will be a very instructive lesson in consumption as well as in production.

Many enterprises make their profits by saving values that formerly were allowed to go to waste.

Those things which represent fixed capital should be consumed as slowly as possible. Many farmers allow their farming implements to remain exposed to the weather throughout the year, and often when in use fail to keep them in repair. This neglect causes them to wear out sooner than they otherwise would. A machine which costs two hundred dollars and is capable of serving its purpose for ten years, will have its productive capacity lessened one-half, if through neglect it is worn out in five years.

CONSUMPTION FOR FINAL GRATIFICATION.

We have already said that the ultimate aim of industrial activity is to secure that which will satisfy human wants. These wants, in primitive society, are few and easily supplied; but, as civilization advances, these wants increase, until now it would be difficult to enumerate all of them.

Man's primary wants may be included under food, clothing, and shelter. These things are necessary for his existence, and their consumption should be sufficient to sustain the bodily powers in fullness of health and vigor.

Man also has a desire for the beautiful, and in order that this desire may be satisfied he beautifies his home, he clothes his body with more beautiful raiment, and surrounds himself with works of art.

His intellectual nature must be cultivated, and so he spends his wealth for schools, books, newspapers, lectures, and travel.

His social nature must be gratified and he seeks to secure the means for satisfying this desire.

Mankind, early in history, found that government is a necessary thing and he must be taxed for its support.

In order that his religious nature may be satisfied, he contributes toward the support of churches and philanthropic enterprises.

These are all legitimate wants and should be satisfied. The question arises as to how much should be spent in gratifying them. The amount which the individual spends for his personal gratification must be determined by the individual himself. The necessary cost of living will be dependent in a great measure upon the social, professional, and business relations of the person. The professional man must clothe himself better than the mechanic. The food of the traveling man will cost him a great deal more than that of the farmer.

Since consumption must be limited by the amount of wealth available, those wants which are for man's highest good should be provided for first and most liberally. There are many wants

developed that are not for man's good; such as the desire for strong drink, or tobacco. These if satisfied, use up much wealth without any resulting good.

No more goods should be consumed than is consistent with the accomplishment of the end desired.

This subject is so closely connected with production that it is difficult to separate them at all points.

Every household, farm, and shop offers a fine field for the study of the subject.

I. M. BRIDGMAN.

POLO, ILL.

SCIENCE IN THE TEACHING OF ENGLISH. XVIII.

COMPOSITION.

THE MECHANICAL SIDE OF COMPOSITION WORK.

The child should do much written work in the first and second grades as indicated in previous articles. From the time that he learns to write, he should be led carefully and gradually to express thought in written language. Nor are these lines of language work; e. g., *reproduction work*, *thinking the isolated sentence into a context*, *describing an act*, etc., as set forth in the previous article, to be discontinued at the beginning of the third year. But at the beginning of the third year, the child may take up the line of written work which may be called *composition proper*.

By the expression, "third year," I do not mean an absolute period of time, but a stage in the development of the child. If the child has been in school two years, of eight to ten months each, and if the English work during these two years has been fairly well presented, he may be said to be ready for the work in *composition proper*. The teacher will often find a class in the fourth or fifth grade which, in the line of English, is at the third year stage of development. In such cases, the teacher should adapt her work to her pupils and present the third year work in the fourth or fifth grade.

Here, then, with his third year, the child begins his work in *composition proper*; i. e., he begins to write with a conscious purpose in mind. He begins work on the four forms of discourse: viz., description, narration, exposition, and argumentation. Exposition and argumentation, deal with general ideas which are difficult to think. Description and narration deal with particular ideas which are more familiar to the child and more easily comprehended by him. The child at this stage of his development, therefore, will not deal with exposition or argumentation, but he will begin with description or narration.

If the language work in the first two years has been well done, the child is not wholly unacquainted with this kind of work. In his *conversations about pictures, animals, and plants*, he has noticed the purpose in the object discussed, its attributes, and parts, and to some extent, the organization of these attributes and parts about the purpose. In his *study of gems of standard literature*, he has found a purpose embodied in each, and has, largely unconsciously, noticed the organization of the thought of the selection about the purpose. His attention has been called to the beauties of the language and its appropriateness to express the thought. He is familiar with the simpler principles of punctuation, etc. He is, thus, able to pass gradually and easily into this new form of written work.

But the pupils and teacher should realize when they begin this line of work, that they are entering upon a difficult subject. It will require the most patient and pains-taking care, the most laborious and wearisome tasks. Tired eye-lids, soiled fingers, aching heads, and weary brains, are the price of good compositions, and the teacher and pupil must suffer together. There is no royal road to good compositions either for teacher or pupil. It means work—hard work—a great deal of it, drudgery of the worst sort. This is not discouraging, however, if the work be undertaken by teacher and pupil in the spirit of "Blessed be Drudgery." Drudgery is your true civilizer. Whatever people are, they owe chiefly to the daily routine, the hum drum, the perpetual grind of every-day life. It is this which fixes habits and forms character. Fortunate is that boy or girl who has a daily task, irksome though it be, and has to do it day after day, in all kinds of weather, and under all circumstances, whether it is pleasant or unpleasant, for if the individual learn to perform his daily task with cheerfulness and alacrity, if he can be happy and agreeable to his associates under adverse conditions, he is truly educated—this is the crucial test of character. Emerson has said, "drudgery, calamity, exasperation, want, are instructors in eloquence and wisdom."

Let us, then, not complain that there is much drudgery for teacher and pupil in composition work; that we must give careful attention to minute details; that matters of punctuation, form, arrangement, sentence construction, paragraphing, spelling, etc., are trying and exasperate us; that compositions must be written carefully, corrected conscientiously, rewritten and corrected again.

This is life; it is meat and drink to both teacher and pupil. "Blessed be Drudgery."

The chief objection to the composition work which has been done in our public schools, is that too much of it has not been done in the spirit indicated above. Teachers say they have not time to examine all the written work that pupils do. They have so many subjects to teach, and so many recitations to hear, and so much work to prepare at night for the following day, that it is simply impossible to look over all the written work which their pupils do. And there is a great deal of truth in this statement. Having taught a country school for a number of years myself, and never having been able by the most careful grading, to reduce the number of classes to less than twenty-seven, I can easily appreciate the point in this complaint. And even though the country teacher, by means of closer supervision and closer grading, has by this time succeeded in reducing the number of classes to twenty, still she finds her time too limited to accomplish the work. Teachers of composition in high schools are expected, in most places, to teach just as many classes as teachers in other subjects, and then examine and correct the written work in addition. Teachers in the graded schools of our cities and towns, on account of the more extended course of study and extra work which they have to do, find themselves with little more idle time than the country teacher does.

All this is not right. Teachers who have written work to correct should be allowed ample time in which to do it. School officers should see to this, and when the true value of such work is better understood and teachers insist strongly enough upon it, they will get it.

In the meantime we must do the best we can. Teachers can often have older pupils help them to correct the work of younger pupils. The children may exchange written work, the teacher going over the work carefully, point by point, with them, while each child marks the mistakes which he finds in his neighbor's paper. Many mistakes will be common to all the papers, and these mistakes should be discussed by the teacher before the whole class. If need be, less written work should be required in order that all the written work which the pupils do shall be carefully corrected, for I believe it is true that the time spent by pupils in doing written work for which they are not held responsible, is *worse than wasted*.

There is a great deal of work that goes under the name of

Busy Work,

done in the public schools. Often the children had much better be *idle* than engaged in this *busy* work. But much of it is carefully done and is

An address delivered by the Rev. Gannett and printed in pamphlet form. It may be obtained free by writing the Century Publishing Co., Chicago. Every teacher should read it.

helpful. Suppose the teacher has two or more classes in the same room. While she hears one recite, she wishes the others to be busy, so she asks them to copy on their slates, or paper, a story from their readers. After the recitation is finished, she has them erase the story from their slates, or put their papers in the wastebasket, and proceeds with the next recitation, while the first class is given some kind of "busy work" to keep them out of mischief. This is the kind of "busy work" that kills. The children had much better be "in mischief," for 'the last state of these children will be worse than the first.'

In the first place, if we suppose that children are all honest and earnest; do the very best they can, and really understand what they are in school for, and try to make the most out of their time, the results of this kind of work will be bad, for under these conditions the child will make many mistakes at best, and these mistakes being oft repeated, and never corrected, will become fixed habits. The teacher gets the full force of this remark if she recalls the fact that she often, now, catches herself in a mistake in English—a misspelled word, incorrect pronunciation, wrong sentence construction, etc.—a mistake which she has been making all her life, and never knew it. If she traces this evil back to its root, she will find that the fault is that of some ignorant or careless teacher, who did not hold her responsible for her work.

But we cannot accept the above supposition as in any very great degree true. Children, as a rule, do not realize fully what they are in school for; they do not know how to make the most out of their time; and most of them have so much of the *old Adam* in them, that they would not do it if they did. The average child reasons somewhat as follows concerning work for which he is not held responsible: "The teacher does not expect to examine this work. She gives it to me to keep me out of mischief while she hears the other class recite. I will pretend to do the work, but I need not do it. I may draw pictures instead. Or, I will rush through the work—scribble it off any way in order that I may have some fun." If he should decide to do the first, he will likely be dishonest, and if the teacher should ask at the close of the recitation how many had the work finished, he would likely tell a falsehood, at any rate he has acted one. If he does the second, he will become careless and untidy as well as dishonest. In any event, if we consider results as to character, or as to English, the child's time is *worse than wasted*.

This mechanical side of written work cannot be too strongly emphasized. It makes all the difference in the world whether the child gets started

in the right way or wrong way. The teacher should remember that the child is fixing habits which will remain with him through life, and manifest themselves in all he does in after life. The work which the children do in composition will manifest itself when they become farmers, merchants, lawyers, seamstresses and housewives. Any one who has ever formed an incorrect habit, such as the use of incorrect English, the tobacco habit, the drink habit, and then has afterwards tried to break it up, knows the value of forming correct habits at first.

The teacher cannot be too careful, then, in correcting the written work of children. See that it is neat and in good form. Give the children some neat form in which they will be required to write all their compositions, and see that they put their work in this form. Any neat form will do, but it is better to give children the form in which printers desire manuscripts.

Write on one side of the paper only. Write the subject of your composition at the top of the first page, in the middle of the first line, and draw three lines under it. This means that the printer is to put it in large capitals. In order that the paper may have a neat appearance, leave the next line blank.

Leave a margin of three-quarters to an inch on the left side of each page. Begin each line, except the first line in each paragraph, at the same distance from the left edge of the paper, so that the margin on the left will be straight, and do not crowd the words out to the right edge of the paper. The right margin cannot be kept straight, however.

The first line of each paragraph should begin about two inches in from the left edge of the paper. Write your name at the close of your composition to the right, and the date of writing at the left. Write neatly and plainly.

These are small, but important matters. The mechanical side of composition is not an inviting subject, but it is a vital one. No good results in English can be obtained without careful and conscientious attention to all these matters of detail, and no feature of this phase of the subject is so unimportant as not to merit painstaking work on the part of the teacher. This paper makes composition look rather gloomy, but there is a brighter side to it, which is to be presented in succeeding papers.

J. B. WISELY.

To know children measures the love for them.

—G. STANLEY HALL.

The study of the child means the study of humanity, the study of self, together with every possible interest of life.

—G. W. A. LUCKEY, in *The Child-Study Monthly*.

HYGIENE OF SCHOOL ARCHITECTURE.

Every school building should have halls and corridors large enough to permit pupils to move around in case of bad weather. They are especially needed if the playground is not provided with covered quarters. They should be well lighted and ventilated. They should be arranged so they could be warmed, for if children are compelled to go into a cold hall to put on their wraps, it is very unpleasant and conducive of ill health. Every school building should be amply supplied with wardrobes. The outer garments should never be stored in the schoolroom. During the season of epidemics, the garments often transport the germs of disease. The garments absorb the perspiration and readily become impregnated with gases. When garments are heated to the temperature of the schoolroom they throw off their impurities. For these reasons they should be kept in a room for this purpose. These wardrobes should be well ventilated and heated, for the same reasons as the corridors should be heated and ventilated. The stairways should be placed in the building so they can be well ventilated and heated. All stairways should be built with a landing at half the height of the ascent so as to break the flight into two runs.

In large buildings the stairs and their walls should be fire-proof. The stairs should be provided with a hand railing. The width of the stairway should never be less than four and a-half feet in any schoolhouse; and in large buildings they should be from six to eight feet wide. The proper height for the risers is from six to seven inches, while for small children five or five and a half inches is better. The tread should not be less than eleven inches, while twelve inches would be better. In large school buildings it is desirable to have two flights of stairs, one in either end of the building. This would lessen the noise from tramping and insure greater safety in case of fire. The best shape of a schoolroom is that of an oblong, the width and length being as three to four. The teacher's desk should be at one end of the room. This shaped room is recommended by many authorities for the reason that it facilitates the supervision of the children's work and deportment, admits of the most satisfactory lighting, and the acoustic qualities of the room do not give so much trouble. The length of a well-planned schoolroom is determined by the distance at which the writing on the teacher's blackboard can be read. The principal authorities on school hygiene nearly agree upon the length of the room. This distance is about thirty feet. The writing of the teacher can be seen very plainly at that distance. The average

child should not be farther away than that distance, for a teacher would have to use greater exertion in order to speak to him. The closer a teacher has his pupils the better for discipline. In a schoolroom that is too wide, it is hard for the teacher to keep the proper supervision over the pupils, and beside a wide room is very likely to violate the laws of lighting. The laws of optics teach us that light diminishes rapidly as it proceeds from the window. It has been usually stated in this country that the width should not be greater than one and a half times the height of the window. A room with a window height of twelve feet would give a width of eighteen feet. Messrs. Eulenberg and Bach would not have the width of the room more than twice the height of the window, while Dr. Lincoln says that the width should never be more than twenty-four feet. The maximum width given by German authorities is usually twenty-three feet.

A room can be well ventilated and lighted which has a height of only twelve feet. The acoustic qualities of the room and the energy required in stair climbing make it desirable that the height should be not more than thirteen feet. But if the width of the room requires a greater height in order to get good light, it should be higher at the expense of stair climbing, and in that case the acoustic troubles would not be great. With twenty feet of floor space to each pupil, and the ceiling twelve feet high, each pupil has two hundred and forty cubic feet of air space. To make good ventilation practicable the cubic air space should never be smaller than this.

The teacher's platform should be placed at one end of the room. It should be raised but a single step above the general floor level; a convenient size is five by eight feet.

When planning a schoolroom the number of pupils should be known. Then, knowing how much open space there is to be around the teacher's desk the size of the room can be calculated, always keeping in mind the lighting of the room. The less projecting finish there is, the better. The wood work should be of hard wood and be plain and smooth in order to facilitate cleaning. The walls should be smooth, and there is no sanitary objections to having the walls painted. The walls ought to be wainscoted up to the window sills, and on the blackboard side up to the blackboard. The color of the walls has its effect on the light in the room. If the walls are white they will cause a dazzling and result in the irritation of the eyes, and often this causes spasm in the accommodation of the eyes. If the walls are of a dark color they deaden the light in the room. The walls should

be of a neutral tint, a light gray, light bluish gray, or light greenish gray. The ceiling should be white so as to act as an over-head reflector of the light as much as possible.

The blackboard should receive as good a light as possible. The best place for the blackboard is on the wall to the right of the pupil if the room is lighted from the left. The room should be lighted from the left as much as possible. There is no serious objection to having blackboard surface on the teacher's end of the room. Boards so arranged will not be much trouble in regard to the reflection of light or the indistinctness of writing on the board. If the room is properly planned, the space on the two walls as described will give ample surface for blackboards.

The height and width of the blackboards should be in proportion to the size of the pupils in the room. In primary rooms they should be as low as twenty-four or even twenty inches. No board in any of the rooms for the older pupils ought to be higher than thirty inches. In advanced schools the boards ought to extend to the height of seven feet, then the upper part may be used for work that is not to be disturbed. At the bottom of the board above the wainscoting ought to be a trough-shaped moulding to catch the crayon dust and to hold the crayon and erasers. The best material for a blackboard is natural slate. The present price is such that it should not debar placing them in schoolhouses. The next best material is artificial slating or liquid blackboard preparation. The surface of a blackboard should be a dull black, never shiny. A great many of the artificial preparations are injured by a damp eraser. As much care as possible should be taken in order to prevent the air in the room becoming loaded with chalk dust.

The construction of the floors is an important element in the sanitary condition of the building. There should not be any cracks in the floor so as to accumulate dust and dirt. The floors should be so constructed as to be kept warm. They should be made out of well-seasoned and hard timber. In Germany a great many of the floors in the schoolrooms are made out of hard wood laid in a layer of asphalt. The reports show that they are giving good satisfaction, and it is further claimed that they are not expensive. When the floor is made of seasoned hard wood it is more easily kept clean.

The question of lighting is an important factor to be considered in the building of a schoolhouse. The subject should be considered in relation to the condition of the inmates. The inmates are children engaged in the acquisition of learning and mental culture, and this acquisition comes largely

through strenuous eye work. The eye and what will render the conditions under which it works most favorable, are, therefore, the first considerations. The inmates of a school are in different conditions than in a dwelling. In a dwelling, if the light is too dazzling, or not enough, they are at liberty to place themselves in the proper condition for good lighting; while in the schoolroom they are not permitted to move so as to accommodate themselves to the changing conditions of the lighted room. The proper lighting of the school room is one of the most important problems in school hygiene. Most of our school buildings are not properly lighted.

In regard to lighting, four points should be considered; namely, the direction of the light, the quality, the quantity, and the kind of light.

In regard to the direction of the light there is some conflict of opinions. Some would have the room lighted from the side, others from above. Again, some favor having the windows only on one side and others on two sides. Most German authorities favor the unilateral system of lighting. Javal, Cohn and others maintain that the ideal plan is to have a glass roof. At present I do not think a glass roof is practicable, but good lighting can be obtained by a more practical means.

The direct rays of the sun should be excluded from the schoolroom during study hours. In school work the organ that is most severely taxed is the eye. Of no other school disease do we hear so much as the eye trouble. The eye is entitled to our first consideration in planning a schoolhouse. Objects of study illuminated by the direct rays of the sun dazzle and irritate the eye. It is also endangered by the direct rays falling upon the desk or any object near the field of vision. On the southern exposure of schoolrooms, Professor Forster of Breslau, says: "Many of the advocates of the southern exposure of schoolrooms pass over this point lightly with the remark that 'Protection from the direct rays of the sun may easily be had by the use of curtains.' But this 'easily' I must dispute. The curtains that will keep back the direct rays of the sun and at the same time let the diffused light of the clear sky pass through, are not yet invented. The inventor of such a curtain would be regarded as a benefactor of the human race. As such a protection some have recommended thick, white linen, but this is too dazzling. Then, ground glass has been recommended, but this is also too blinding in direct sunshine, and on cloudy days intercepts the light too much. Again, all green, gray or blue curtains, if thick, absorb too much light and make the desks most distant from the window too dark, while if thin, they let through too many heat rays. Venetian and other

blinds darken the room altogether too much and are wholly unsuitable. If the curtains are brought across the upper part of the window opening, that is the most valuable for lighting the schoolroom." All authorities agree that the room should be flooded with light so that the darkest place in the class may have light enough on a dark day. Windows to the north furnish a light that is more uniform, soft and agreeable to the eye than from any other point. In this latitude a room can be lighted to the best advantage from the north. An east window lets the sunshine stream into the room in the morning, but it is soon gone after the opening of the forenoon session. A west window lets in the long, level rays of the sun, which are so objectionable. There is no objection to the west window for light if there is no afternoon session; but in some localities the west windows let in so much dust in the summer season.

THE DIRECTION OF THE LIGHT WITH RESPECT TO THE STUDENT.

Everybody knows that he can write best when the light comes from the left. All authorities agree that the predominance of light should come from this direction. If the light comes from the right, the hand and pen or pencil cast a shadow in the field of distinctest accommodation, causing the object to be drawn closer to the eye in order to be seen distinctly enough. But if windows on the right are placed above the blackboard, and are used only for ventilation and letting in the sun's rays during the recesses, there will be no serious objection to them. Windows as such should have blinds, and these blinds be kept closed during the study hours.

Windows in front of the pupil cause a dazzling to the eyes, and hence are very injurious to the eyesight. When the light comes from behind the pupils, the light itself is not injurious to the eyes in a direct way; but the bodies of the pupils intercept the light and cause a shadow upon the work of the pupil. The light coming from the rear is very injurious to the teacher and interferes with his ability to manage the class. If the room should demand bi-lateral lighting, the greater amount of the light should come from the left. It will not be necessary for such lighting, if the subject for lighting is taken duly into consideration before the schoolhouse is built. The quality of light for a schoolhouse should be a soft light such as comes from the open sky. The direct sunlight or even reflected light from the neighboring buildings is hard on the eyes. A good portion of the sky ought to be seen through the windows from each desk. If the arrangement is such as to provide a condition of lighting above mentioned, it will give

plenty of light in any portion of the building or room.

If the room requires artificial lighting, it should be electricity. The incandescent light gives practically no heat and consumes no oxygen. It is steady and safe. Dr. Conn claims that he has proved that the electric light is better than a gas light; and he also claims that the alleged dazzling is a sort of legend. If proper improvements are used, the jerking of the light will be prevented; and if the pupil does not look at the light it will not injure his eyes. He also thinks the theory that the color, ultra-violet, of the electric light will cause early exhaustion, is only theoretical and not practical. He argues that the artificial illumination of the schoolhouses in the future will, and should be by electricity.

The light in the schoolroom is apt to be deficient because school officials do not realize that light diminishes, not as the distance, but as the square of the distance. There is no danger of having too much light in the schoolroom if it is diffused and is not an objectionable reflected light. The quantity of light found at the darkest desk should, according to Cohn and others, equal at the very least, that of ten meter candles. If there are no trees or buildings to intercept the light, the amount of window space should not be less than one-fifth of the floor surface. This will only hold good to certain limited widths of the schoolroom.

The height of the window sill should not be less than three and a-half feet. Dr. Lincoln claims it should be four feet. When the window sill is low it does not illuminate the pupil's work, but dazzles the eyes of the pupil. The higher the light is admitted into the room, the better. If the ceiling is left white, and the light is well admitted, it becomes a good auxiliary in lighting the schoolroom. The top of the window should be as high as possible. The space between the top of the window and the ceiling should not be more than a foot; and six inches would be a better distance.

The light admitted from the upper part of the window is too valuable for it to be sacrificed for architectural effect. Arched or Gothic windows should never be used in a schoolroom. The sides and tops of the window frame should be beveled. But the bottom should never be, for it is apt to throw the light below the work of the pupil. The sash of the window should be as light as possible. A convenient width of the window is three feet. A schoolroom in which unilateral lighting is used, and the last row of desks is eighteen feet from the windows, the ceiling should not be less than thirteen feet, nor the tops of the windows less than twelve feet. The question is often asked, "How should the windows be grouped?" If the system

is unilateral lighting, the windows should be at regular distances, the whole length of the left side. The space between the windows should not be more than sixteen inches and a less distance would be better. If the windows are grouped it will cause an uneven lighting of the room; a result which should be avoided.

Blinds and shades for the windows are not often necessary if the room is lighted from the north. If they are needed the blinds should be of a light gray linen. They should be so arranged as to cover the portion of the window that is needed to be and that portion only. If they are used the teacher should take great care that they are regulated properly.

The use of double windows, which is so beneficial in the heating of a building, is objected to in the question of lighting on account of diminishing the amount of light. This objection I do not think is valid. By preventing the frosting of the windows, which occurs often in this climate, they save more light than they obstruct. They should, however, be of a kind that would interfere with the light as little as possible. A very desirable window of this kind is composed of two glasses set about a half inch apart in the same sash.

As has been mentioned in another part of the paper, the neighboring buildings should not be so situated as to interfere with the light. The distance that they should be from the school building is not less than twice their height.

JOHN A. SHAFER.

WILLIAMSBURG, IND.

(TO BE CONTINUED.)

This study enriches the work of the teacher in two ways: In the first place, by forming the habit of considering children as objects of interest, and not as little nuisances, and by learning that things which have been considered as only very annoying traits on the part of children in the past are psychological sign-posts to be studied and regarded, and that troublesome children are often scientifically the most interesting children. All this gives the teacher—shall I say patience? Not so much that, as a kind of interest in the phenomena presented by children in the school-room which makes patience unnecessary.

—C. H. THURBER, in *The Child-Study Monthly*.

The last four hundred years have witnessed a gradual change of base in education. During the renaissance period, and in fact ever since that time, the curriculum has been uppermost in the minds of teachers and the child the secondary matter. Child-study is leading us to invert that order, and to regard the child as the first factor in the school.

—F. M. McMURRY, in *The Child-Study Monthly*.

THE DORCHESTER GIANT.

There was a giant in time of old,
A mighty one was he;
He had a wife but she was a scold,
So he kept her shut in his mammoth fold;
And he had children three.

It happened to be an election day,
And the giants were choosing a king;
The people were not democrats then,
They did not talk of the rights of men,
And all that sort of thing.

Then the giant took his children three,
And fastened them in the pen;
The children roared; quoth the giant, "Be still!"
And Dorchester Heights and Milton Hill
Rolled back the sound again.

Then he brought them a pudding stuffed with plums,
As big as the State-House dome;
Quoth he, "There's something for you to eat;
So stop your mouths with your 'lection treat,"
And wait till your dad comes home."

So the giant pulled him a chestnut stout,
And whittled the boughs away;
The boys and their mother set up a shout,
Said he, "You're in, and you can't get out,
Bellow as loud as you may."

Off he went, and he growled a tune
As he strode the fields along;
'Tis said a buffalo fainted away,
And fell as cold as a lump of clay,
When he heard the giant's song.

But whether the story's true or not,
It isn't for me to show;
There's many a thing that's twice as queer
In somebody's lectures that we hear,
And those are true, you know.

* * * * *

What are those lone ones doing now,
The wife and the children sad?
O, they are in a terrible rout,
Screaming and throwing their pudding about,
Acting as they were mad.

They flung it over to Roxbury hills,
They flung it over the plain,
And all over Milton and Dorchester, too,
Great lumps of pudding the giants threw;
They tumbled as thick as rain.

* * * * *

Giant and mammoth have passed away,
For ages have floated by;
The suet is hard as a marrow-bone,
And every plum is turned to a stone,
But there the puddings lie.

And if, some pleasant afternoon,
You'll ask me out to ride,
The whole of the story I will tell,
And you shall see where the puddings fell,
And pay for the punch beside.

—OLIVER WENDELL HOLMES.

Better to be driven out from among men than
to be disliked by children.—Dana.

PRIMARY WORK.

DRAWING THE APPEARANCE OF OBJECTS OR "SEEING LESSONS."

If we could "see," what would we not know? If one were a "seer," physically, mentally and morally, what roads would not be open to him? Through drawing we can certainly learn to see material things, and who will dispute the fact that eyes wide open to *things* do not help to open the heart and soul?

If it were only to keep one's mind occupied with the pure and good, it would pay to develop the observing powers, for those who go through life, learning of their surroundings through observation, cannot, at the same time, be a prey to the evil that is so easily entertained.

So let us try to open the eyes of the children, or rather, let us lead them to search for truths, through observation, for the sake of the truth that exists in Nature and Art.

"Live to the Truth" is the motto of one of the noblest educational institutions of our country, and to live to the Truth, we must have every avenue of discovery open.

Undeveloped minds must be met with the simple and familiar, and such can be presented to pupils, beginning during their first school days, and if drawing accompanies the observation, we not only have the exercise of the perceptive powers, but, in the drawing, a test of the correctness of the image gained.

The lessons in drawing from objects, just as they appear, we often call "seeing" lessons. One thing in favor of this branch of the work in drawing is that it may be done in all schools, from first grade through all grades, in city or country, in graded or ungraded schools. Of course type forms should first be used, but spheres, cubes and cylinders are easily obtained at little expenditure of time or money, so it is not well to postpone work in drawing for lack of material.

Regarding "seeing" lessons, these questions are always open to discussion: How shall we begin? How much should be said in regard to the appearance of the object before beginning to draw? Should the criticism be individual or general? How much correcting should be allowed, and how accomplished? Ought any of this work be done at the board, where one child sees the work of the others?

One might begin by placing before each pupil a simple type form. It has been the writer's experience, that in the early stages of this work, little or no questioning should precede the child's first attempt at drawing an object. Suppose cubes have been passed to a class, and each

has placed his on a box to bring it nearer the level of his eye, thus making the foreshortening of the top face more apparent, one face of the cube toward him, this being the simplest position in which the cube may be placed in order to represent more than one face. The pupils are told to draw what they *see*, making the drawing at least as large as the model.

This first drawing results in "all sorts and conditions," among which will doubtless be figures 1, 2, and 3.

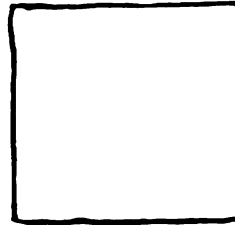


Fig. 1.

having discriminating power enough to tack the correct criticism to his own drawing.

The child, through skillful questioning, should make his own criticism. To the one who drew Fig. 1 might be said:

"How many faces of the cube do you see?"

"Two."

"Have you made two?"

"No."

"Do they look alike?"

"No, one is narrower."

"Draw it again."

Of the producer of Fig. 2 one might ask:

"Which face looks narrower?" "Have you drawn it so?"

"No."

"Try again, and show the difference in your drawing."

A drawing like Fig. 3 is very good. We do not expect children in the first or second year of school to see convergence as in Fig. 4,

and a drawing like Fig. 4 is seldom obtained. The

Now is the time to criticize. Shall it be individual or general? Individual, by all means, is the writer's opinion. In giving general criticisms before a class suggests certain changes under certain conditions, the child becomes confused, not

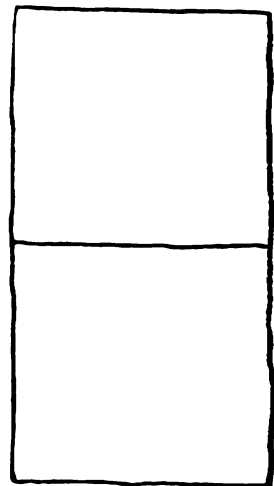


Fig. 2.

narrower?" "Have you

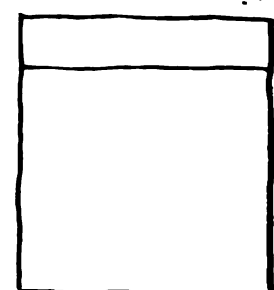


Fig. 3.

writer would not advise criticising a drawing like Fig. 3 adversely, unless it were faulty in size or placing.

Following this plan, the correcting is accomplished by giving pupils an opportunity to try again, perhaps several times.

Excepting in nature work or elementary science, where each child has a specimen that varies in some degree from those of the others, it is the opinion of the writer that "seeing" lessons should be independent of the black-board. Children are such admirable imitators that it is difficult to know how much of his drawing is original work, when he has around him the work of others. Each pupil should be perfectly free to express what he sees, having no suggestions by means of words or drawings. The words of criticism should not suggest *how* to correct the drawing, but should lead the child to see that his first drawing is not like his object. The knowledge of how to make it like the object, must come from within himself.

After pupils are developed enough to know that elements should not be represented separately, but as parts of a whole, in more difficult work it is often a help to have the outline of the object traced in the air, with the pencil, thus giving a motor image of its appearance. After the tracing it sometimes helps to ask how many faces, horizontal edges, vertical edges or slanting edges are to be drawn.

The tracing in the air is a help in correcting faults resulting from a confusion of facts with appearance.

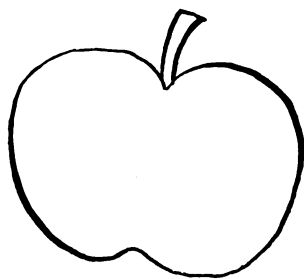


Fig. 5.

his picture like Fig. 5. If he is lead to trace the the outline in the air, he will see that the depression where the stem is, is *not* at the top of the outline, and that the depression at the blossom end does not show at all. The tracing in the air also

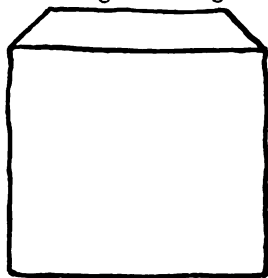


Fig. 4.

helps to bring out the fact that in natural objects with rounding surfaces, there are often straight

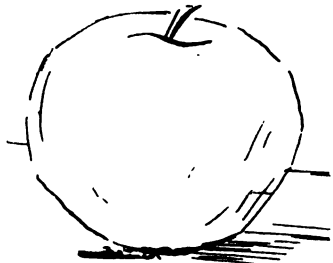


Fig. 6.

places in the outline. When a pupil will draw like Fig. 7 rather than Fig. 8, he has made a great step forward.

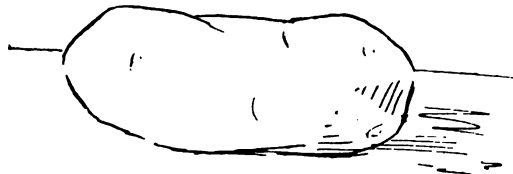


Fig. 7.



Fig. 8.

New difficulties arise when groups are introduced, but the lesson may be managed much as if it were the drawing of a single object. Suppose we have an equilateral triangular prism and a sphere together, arranged as in Fig. 9.

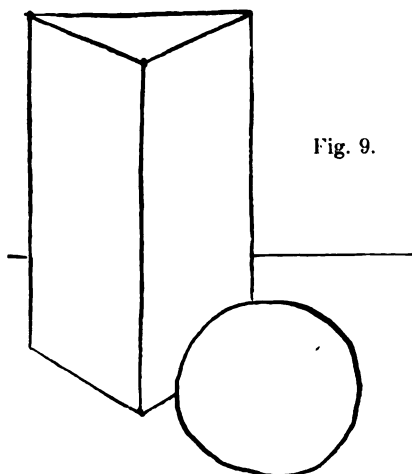


Fig. 9.

Figures 10, 11, and 12 show some of the errors likely to occur in the drawing of this group.

In a group we have the relation of objects, which necessitates comparison of size and position.

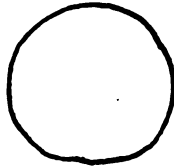
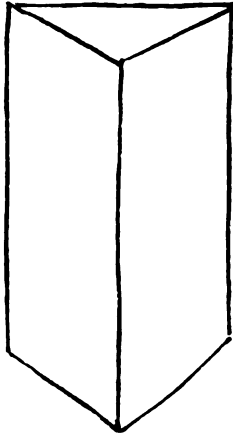


Fig. 10.

Figure 10 is easily criticised by holding the sphere where the child

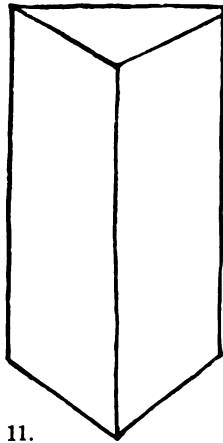
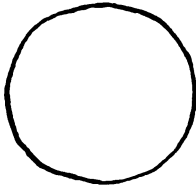


Fig. 11.

has drawn it, or in a corresponding position. The same might be done for Fig. 11.

Figure 12 shows a difficulty which might have been avoided had the sphere been drawn first. It is very satisfactory to have the nearer object drawn first, then the others placed in the proper relation to it.

The drawing of the appearance of the models or objects by themselves ought to be fairly well mastered before they are used in groups.

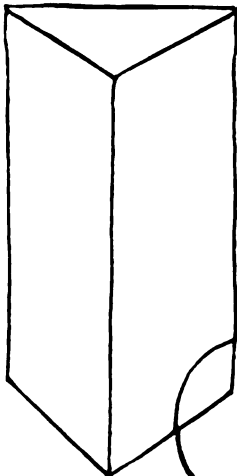


Fig. 12.

These methods of work and criticism may be carried out in all grades, whether the groups be of

models, objects resembling them, fruits, vegetables or combinations of these.

L. DORRIT HALE,
Supervisor of Drawing.

EVANSVILLE, IND.

AN APPROVED TEXT-BOOK : FIRST EDITION.

No more noticeable or encouraging feature is observable in modern educational methods, than the increased attention given to the study of nature. It has been asserted that if we will watch a fad for a time, we shall see an "e" growing at the terminal point. That there has been much of growth in this department of study since it received its first impetus, cannot be questioned; yet the most powerful lens shows thus far no indications of the unwelcome little vowel; the growth tends not to obscure, but to intensify the luster of the original. Herbartianism, vertical penmanship and other important subjects have seemed periodically uppermost in the minds of teachers, and sparkled from the pages of professional publications; meantime the current of the study of nature from the original edition has been steadily increasing in depth and volume.

The demands of a more practical age have induced many of our leading colleges and universities to eliminate from their curriculum a considerable portion of the time-honored classics and mathematics, to make room for the growing needs of science. Systematic study, pure and simple, has been largely replaced or strongly supplemented by laboratory work leading to original investigation; and the rude stepping-stones laid by pioneers become the foundation on which the modern student proceeds to erect a structure of approved workmanship.

The recent princely "Culver gift" of one million dollars to the University of Chicago for biological endowment, has resulted in the establishment of a Department of Botany, at the head of which one of the ablest of American botanists has been placed. The plans for the proposed "Hull Botanical Laboratory," will furnish not only commodious lecture rooms, libraries and laboratories, but rooms for private research in morphology, physiology, and taxonomy. Surely with such drill and equipments a larger and better disciplined corps of specialists may soon be expected from this one institution than the entire force led by the immortal Gray!

A conspicuous feature in the exhibits of secondary schools at the Columbian exposition, was the collection of insects, shells, plants, fossils and minerals, made by pupils in their respective localities, emphasizing in a practical manner Kingsley's

definition of a "thoroughly good naturalist" as "one who knows his own parish thoroughly."

But especially praiseworthy and hopeful is the work done in the primary grades, since the child-mind is most impressionable. Besides, here are reached the masses, many of whom never enter college or even high school.

Rarely is a child of normal mental endowment destitute of an innate love for life in some form. It may be centralized in a pet bird or kitten, skill with the rod and hook, hunting, or in the most degrading stage, robbing birds' nests. (The last vocation (?) is usually directly traceable to lack of home training or evil associates). The "lazy" boy, proverbially late to school, finds that under the new regime, watching the movements of a crow or bee is no longer judged an irretrievable loss of time; while the hope that he has thereby observed something of interest to his teacher and classmates, is the needed spur to induce punctuality.

The skillful teacher studies the individual tastes of his pupils, adapting to them, in a measure, his plans of development, and gradually effacing tendencies to cruelty and destruction. And as soon as the pupils appreciate the mutual interest existing between them and their leader for the various forms of out-door study, they are as powerfully attracted and held by the magnet of sympathy, as they were once repelled by the austere look or fear of the rod. Thus, the strong fort, order, is captured though not by storm.

Aside from this what is the gain? To science: A host of local workers; an infinite increase in the number of points of observation; a general awakening of popular interest, and hearty sympathy with all movements for promoting its development.

To the individual: The ability at an early age and almost unconsciously to observe; to classify his observations; to draw logical inferences and conclusions; to express them systematically and intelligibly. The dense fog is lifted, disclosing new fields of enjoyment; his world is enlarged, rendered more beautiful; the most humble garden or neglected fence-row furnishes him more pleasure than one incapable of using his eyes and reasoning faculties would gain by circumnavigating the globe. Says John Burroughs: "The student and lover of nature has this advantage over people who gad up and down the world, seeking some novelty or excitement; he has only to stay at home and see the procession pass. The great globe swings around to him like a revolving show-case; the change of the seasons is like the passage of strange and new countries; the zones of the earth, with all their beauties and marvels, pass one's door, and linger long in the passing. What a voyage is

this we make without leaving for a night our own fireside!"

Finally, the winged seed, the repulsive worm, the downy bee, the feathered architect,—each form of life emphasizes the interdependence and harmony which exist throughout nature's realm, and increases our admiration and love for the Divine power which evolved so wondrous and beneficent a plan.

BESSIE L. PUTNAM.

A FIRST-YEAR WRITING LESSON.

Desks are cleared, slates are clean and in position, pencils are out of the hands. Ever-so-many pairs of bright eyes are watching the board. This is a very young class. Some of the script letters are learned, but most of the twenty-six are strangers still. It might rather be said fifty-two, as the capitals are also to be mastered.

"Guess what we will write to-day, little folks. I shall use the two letters we had yesterday and one more, and the three together will spell a word. There are hands up in an instant, of course, for every primary teacher knows the exceeding facility with which the tiny hands go up. It is something to do and is forthwith done, whether the small brain holds an idea or not. This is to be watched and corrected with the utmost good humor. Some of the guesses are wild, just as the teacher expected. Then she leads the children to think again what two letters *must* be in the word, and how many letters it is to have when completed. Some one guesses, "pin." "No, it is the name of something bright like silver." This hint is not given until all are thoroughly interested and it is quite time to present the new word "tin."

Two sets of double lines are already drawn, one high, where it is easily seen; one low, within reach of the smallest child.

At this point the teachers language grows highly figurative, and though her metaphors get sadly mixed sometimes, she hopes for forgiveness on account of the enthusiasm that takes possession of her flock. She often speaks of the base line, as the floor, the second line as the ceiling of a most marvelous room which is peopled by the children's fancy with delightful little people. This saves time in explaining various dry details.

"Watch Mr. *t* carefully so you will always remember him. See where I put my chalk, (let all point), up, up, very slowly—here he comes to the ceiling—such a tall fellow as he is; his head bumps through—poor fellow! But he is not hurt. How straight he stands!" And so on until the downward stroke is completed. But Mr. *t* is never seen without his broad-brimmed hat. He puts it on straight, too. I think he must be afraid of getting tanned." By this time every child in the class

has a mental picture of *t* and has had several hearty laughs over some of his eccentricities.

The other two letters are added with fewer comments as the children are already familiar with *i* and *u*. A moment is spent in tracing imaginary letters in the air. Each one is eager to try his skill at writing the new word on the board. Those who are the slowest need this drill and are proud beyond all measure to see their own efforts before the class.

When the signal is given to take up pencils and write on slates the interest has reached such a point that the teacher does not dare to let the exercise continue much longer lest there should be an over-production of "tin." They never want to stop when a new letter is fairly mastered, but since they must stop, they go home with happy hearts, and their precious slates under their arms, if the teacher permits—which she doesn't if her class is large.

There is always some pleasant surprise in the writing lesson. When it comes to the more difficult forms, as the small letter *f* the teacher may have to tax her ingenuity to the utmost, and weave a wonderful romance about this long, lank letter in order to forestall its ordinary mistreatment at the hands of the young.

Let the teacher only remember her own trials and exceeding great sorrow in writing slatifuls of *k*'s or *f*'s or *k*'s and she will have sympathy with beginners and do her best to put life into the work. Imagination goes a long way toward making the exercise a success and common sense will keep it within bounds.

BERTA KNOWLTON BROWN.

OXFORD, OHIO.

FIRST GRADE READING.

In a reading lesson in the First Grade, the children should be led to take three steps,—

- a. To think the meaning.
- b. To think the form.
- c. To relate meaning and form.

To illustrate, a teacher's purpose is to teach the

written form of the sentence, "The rose is yellow."

Holding a yellow rose before the children, she asks them to tell her something about it. This is the device used in leading them to take the first step. When all are thinking, "The rose is yellow," the teacher calls attention to the form, which is in several places on the board, and varies in size and color. This device is used to impress the essentials of the form. In leading them to the third step the teacher says, pointing to the form, "This says, 'The rose is yellow.'" The three steps taken, the drill necessary to fix this relation of thought and form, follows.

Now, suppose the teacher's purpose be to teach the written form of the word, *rose*. Again she leads the children to take the three steps. As a device, she holds the rose under the written word. Then says, pointing to the form, "This says rose." (a) The rose itself stimulates the idea. (b) the form is present. (c) and the teacher's words lead to the relating of idea and word. Drill should follow.

Again, her purpose is to lead the children to relate the sounds in the oral word to the letters in the written word. The same three steps are taken. The teacher requires the children to pronounce the word slowly until the first sound is distinguished. They have made the first advance. She then points to the letter in the written word, "The children make the second advance" saying, "The letter *r* says that sound." In relating the sound and letter the children make the third advance. This process is repeated until all the relations are mastered.

Many questions may be raised in regard to the material for First Grade reading, the devices to be used, and amount of drill necessary. These points must be settled by each teacher in the light of his experience and the need he sees to exist. But whatever material is used, and whether the teacher's aim is to teach a sound form, a word form, or a sentence form, the children must be led to take the three given steps.

GERTRUDE ROBINSON.

"The constant virtues of the good are tenderness and love
To all that lives—in earth, air, sea—great, small—below, above
Compassionate of heart, they keep a gentle thought for each,
Kind in their actions, mild in will, and pitiful of speech;
Who pitieth not, he hath not faith: full many an one so lives,
But when an enemy seeks help, a good man gladly gives."

The Maha-Bharata—Rabbi's *Natural Epics*.

TOWNSHIP INSTITUTE WORK FOR 1896-97.

SEVENTH INSTITUTE.

GUIZOT'S HISTORY OF CIVILIZATION.

[The discussion of Lectures IX, X and XI was received too late for the January issue.]

Lecture IX.

MONARCHY.

In considering Guizot's account of monarchy, it should be borne in mind that the writer was a constitutional monarchist and could not be expected to appreciate the republican form of government to the fullest extent. He had witnessed the excesses of the republicans during the French Revolution.

The monarchical form of government has prevailed at some time or another in practically all countries of the globe. The absolute monarchy is succeeded by the limited or constitutional form; and this in turn is being rapidly superseded by the republic. Monarchy was the natural form in the early evolution of government, and was due, in Guizot's opinion, only in a small degree to force. Reason and moral influences were far more potent than force.

That monarchy was an exceedingly flexible form of government is shown by the fact that it adapted itself to all sorts and conditions of men.

Monarchy is not the will of an individual, but it is the "personification of legitimate sovereignty." It must be evident that persons who have always lived under a republican government cannot appreciate the full force of this statement.

Monarchy appeared in various forms in Mediaeval Europe. The German barbarian monarchy was *elective*. The king held the leadership by the common consent of the tribe. Hereditary monarchy grew naturally from the elective. It became the custom to elect the king from some powerful family. This custom attained the force of law in many instances. The monarchy of the barbarians had also a religious aspect. The kings, like those of antiquity, were supposed to be of divine origin.

The Roman or imperial monarchy was quite a different type. Augustus, the first emperor of Rome, was looked upon as the representative of the Roman people. The majority of his successors assumed a power that was absolute.

The Anglo-Saxon monarchy was barbarian and elective. Theoderic's kingdom was imperial; Pipin's was barbarian of the elective type; the monarchy of Charlemagne was a combination of the imperial and religious.

In the twelfth century monarchy became the

"chief conservator of the public peace." No other force could prevail amid the feudal tumult.

Lecture X.

UNSUCCESSFUL ATTEMPTS AT THE UNIFICATION OF SOCIETY

Various attempts were made at political organization during the period extending from the twelfth to the fifteenth century. The first attempt was theocratic: the design was to bring the government under the sway of the church. The attempt failed for various reasons. In the first place, Christianity was established by persuasion and not by force, and hence could not take forcible possession of society and give commands. Again, the church was opposed by the feudal nobility, who considered themselves its superior. But the dissensions and disputes within the church were the most formidable obstacles to theocratical organization.

Various attempts at organization were made by means of the Free Cities. These were doomed to fail. "It appears, then, that republican organization, even under the most favorable circumstances, did not contain at this period, any more than it has done since, the principle of progress, duration and extension." It should be remembered that greatest progress of republican principles has been made since Guizot's time.

Lecture XI.

THE RISE OF CENTRALIZED GOVERNMENT.

For centuries the nations of Europe had been striving in vain to build up strongly centralized governments. Theocracy, Aristocracy, Democracy, Monarchy—all had failed alike to produce the desired result. At the beginning of the fifteenth century centralization began to show signs of success. Guizot maintains that it was impossible before this time because of the absence of "general interest and general ideas." Everything was "too special, too individual, too local." In the fifteenth century a grand array of forces combined to change the old order of things. The Hundred Years' War welded France into a solid nation; and other contests performed a similar service for some other nations: but it was the Revival of Learning which caused the most radical changes in the whole of Europe. The Renaissance was followed by a most remarkable series of inventions, discoveries, and explorations which hastened the departure of mediaeval feudalism and prepared the way for strongly centralized governments.

THOS. F. MORAN.

(Lectures XII, XIII, XIV, pp. 315-306.)

LECTURE XII.

THE REFORMATION.

1. Age of the Reformation—Characteristic difference between this age and preceding centuries. Assign limits to the period.

2. First and greatest effect of the religious revolution on the state-life of Europe. Significance of the Peace of Westphalia.
3. The prominent historical events of this age:
 - a. In Continental Europe.
 - b. In France.
 - c. In Spain.
 - d. In England.
 - e. In Sweden.

Illustrate the greatness of the age.

4. Danger of too early generalizations.
5. Various causes assigned to the Reformation.
6. Guizot's view on the dominant characteristic of the Reformation.
7. The state of the human mind at this period. The situation of the spiritual power.
8. The central purpose and result of the Reformation.
9. The reproaches of the enemies of Reformation:
 - a. Multiplies sects.
 - b. Licenses thought too freely.
 - c. Destroys spiritual authority.
 - d. Dissolves religious society.
 - e. Leads to tyranny and persecution.
10. Weakness of the Reformation.

LECTURE XIII.

THE ENGLISH REVOLUTION.

1. The two essential triumphant facets emerging in European civilization in the 16th Century:
 - a. Free examination.
 - b. Absolute monarchy.

The defeat of absolute power spiritually, and the triumph of absolute power in the temporal order. Explain how both of these were advances in the march of civilization. When did these two triumphant forces first come into conflict?

2. What is the true sense of the English Revolution?
3. Why did the political revolution occur earlier in England than on the continent, *i. e.*, more nearly coincident with the religious revolution? Consider on this point:
 - a. The new illegal principle of monarchy asserted by the Tudors and the Stuarts.
 - b. The political aspects of the Revolution.
 - c. The minor nobility and their wealth in the Commons.
 - d. The intellectual movement of the Age of Elizabeth.
 - e. Early foundations of the free institutions of England. Magna Charta. Growth of the Commons.
4. On what four elements did the free institutions of England consist in the 17th Century?
5. The relation of the friends of religious liberty to the friends of political liberty in this revolution.
6. Characterize the Parties of the Revolution, and notice the results of their respective attempts at government.
7. Compare Bossuet's and Guizot's estimate of Cromwell. The government of Cromwell.
8. Reasons for the Restoration and the nature of its government.
9. Character of the combination against James II.

LECTURE XIV.

THE FRENCH REVOLUTION.

1. The distinguishing trait of English civilization. Compare with the Continent.
2. Influence of general ideas in England and in France, comparatively. Why?
3. Relative influence of the French government and of the French nation. When was each predominant?
4. Influence of the wars of Louis XIV. in the development of French history.
5. State of the French mind in the 18th Century. Decline of the influence of the government; the spirit of free inquiry; boldness of the French mind.
6. The final conflict between free inquiry and absolute power.

In the concluding lectures of his masterly and profound course, M. Guizot comments upon the three greatest movements of modern history,—the Reformation, the English Revolution, and the French Revolution.

M. Guizot considers the burning of the papal bull by Luther in 1520 as the beginning of the Reformation, and the Peace of Westphalia, 1648, as its close. This Treaty marks the end of the Thirty Years' War and the elimination of the religious question as the *main* point at issue. Before 1648 Catholic and Protestant states engaged in deadly combat. After 1648 the wars were not so distinctively religious in character.

Guizot does well to guard us against "hasty and incomplete generalization" in considering the Reformation, inasmuch as false deductions from the historical facts of this period are far too common. In the histories of this period prejudice often takes the place of fact and reason. The entire truth regarding this great movement cannot be gleaned from such a work as D'Aubigne's *History of the Reformation* which is intensely Protestant in its views. Neither is the case impartially presented in Bishop Spalding's *History of the Reformation*, which is practically a reply to the views and arguments of D'Aubigne's. Obviously, impartiality is needed in the treatment of this epoch.

One of the most important parts of the lecture on the Reformation is that which discusses the causes of the religious revolt. In the opinion of Guizot both the friends and the enemies of the Reformation have alike failed in appreciating the real cause of the movement. Its enemies have held that it was largely due to accident, to the rivalry between the monarchical and ecclesiastical powers, and to the greed of the nobles, who coveted the property of the church. The partisans of the Reformation, on the other hand, have contended that it was a pure and unselfish movement for the purpose of purging the church from certain abuses. Neither of these explanations is satisfactory to Guizot. His philosophical instinct seeks a more fundamental cause. He is undoubtedly correct in saying that "it was a vast effort made by the human mind to achieve its freedom." The movement was for the emancipation of human reason, and not alone for the removal of certain superficial abuses. Guizot holds that this emancipation took place in countries which became Protestant, but that the human mind was "languid and inert" in Spain, Italy and other countries in which the Reformation did not prosper. The editor, Professor Knight, does well to call our attention to the fact that this depressed condition of Southern Europe was undoubtedly due in part to causes other than the religious one. He states

that climatic conditions should be taken into account. We should also remember that there were other reasons why the Protestant countries of Northern Europe progressed more rapidly than the Catholic countries of the South. Previous to the discovery of a water route to India the seaports of the Mediterranean were in a flourishing condition, due largely to the overland trade with the East. But after 1497 the decay of these seaports was rapid, and the growth of the Atlantic cities equally rapid, due to the new channels of trade. The point to be emphasized is that the prosperity of the Protestant countries was not entirely due to the Reformation, although no one will now deny that the latter movement was a very important element.

In pointing out the weaknesses of the Reformation, M. Guizot emphasizes the inconsistency and narrowness of times prevalent among the reformers. Such weaknesses there certainly were. Luther, Calvin, Zwingli, and other reformers were not always consistent and frequently entertained narrow views. But we should remember that these men lived in the sixteenth century and should not be judged by present ideals. Religious toleration, not perfect to-day, was then unknown. Notwithstanding this charitable view, however, the fact remains that the inconsistency and the narrowness of the reformers militated against the success of the Reformation.

As the Protestant Reformation was a revolt against spiritual absolutism, so the English Revolution was a revolt against political absolutism. The Stuart kings were thoroughly imbued with the doctrine of the "Divine Right of Kings" while the English people steadfastly cherished their rights as embodied in the Magna Carta and other fundamental documents. A collision was inevitable, and when it occurred absolute monarchy in England was displaced by the sovereign will of the people as represented in the House of Commons. The idea of absolutism had grown under the Tudor and Stuart kings only to be in part abolished by the great civil war in which Oliver Cromwell was the central figure. The Restoration in 1660 reintroduced the absolute policy of the Stuarts which continued until 1688. In that year the so-called "Glorious Revolution" swept away all remaining traces of absolutism and enthroned the sovereign will of the people.

Guizot's opinion of Cromwell is quite similar to that generally entertained by historians in the early part of the present century. Since the publication of the *Life and Letters of Cromwell* by Carlyle, public opinion regarding the great Puritan has been revolutionized in his favor.

In his lecture on the "French Revolution" M. Guizot wanders over all of Europe and says very

little concerning the Revolution proper. For this reason the discussion cannot fail to be unsatisfactory to the careful reader.

The French Revolution of 1789 was a revolt against absolute monarchy in France; and to this extent resembles the Puritan Revolution in England in 1640, and the American Revolution of 1776. In its details, however, the French Revolution is quite different from the English or the American. The French people were groaning beneath the oppression of centuries. M. De Tocqueville shows that they were in a worse condition in the eighteenth century than in the fifteenth. The clergy and the nobility owned the greater part of the land of France, while the burdens of taxation fell upon the Commons. Obnoxious monopolies flourished. Offices were sold to the highest bidders, and general corruption prevailed. The public debt was unwieldy and the financial condition of the country was lamentable. To eradicate these abuses, largely the result of absolute monarchy, the French people arose in 1789.

THOS. F. MORAN.

LA FAYETTE, IND., January 18, 1897.

METHOD IN READING.

I. THE STUDY OF SELECTIONS.

1. The kinds of selections.

- a. Those expressing thought concerning objects of nature; as the following in the Indiana Third Reader: Flowers, page 28, etc.
- b. Those expressing thought concerning historical events; as the biographies of the different authors; description of battles, etc.
- c. Those expressing ideal events; as the following in the Indiana Third Reader: Five Pens in One Pod, page 10; The Golden Eggs, page 13; Can and Can't, page 13; The Fable of the Cuts and the Monkey, page 21, etc.

2. Discuss the relative value of these kinds.

3. The steps in the study of a selection.

- a. Thinking out the purpose that the writer had in writing it.
- b. Thinking out the central thought, and the elements or parts of this main thought.
- c. Deciding upon the fitness of the language to express the thought.

4. Illustrate with various selections these three steps.

NOTE.—See the introduction to "Literary Interpretations" and "The Nature of Literature," same book, for suggestions in this subject.

The following discussion is not intended to cover the entire ground of Method in Reading, but to briefly cover the scope given in the outline above except, "4. Illustrate with various selections these three steps."

It is generally understood that literature, reading, composition, grammar, spelling and writing constitute a group of studies called "Language Studies." This is proper, because they all have to do with facts of language. But why these separate branches of language study? This point was

touched upon in the discussion of spelling in the December INLAND EDUCATOR, page 262. It was hinted that, on the principle of the mind's emphasis of a certain attribute or relation of the language fact, it becomes a literature, reading, composition, grammar, spelling or writing fact, according to the attribute emphasized.

It seems that the most difficult distinction for us as teachers, to make, is that between reading and literature as branches of study. It seems to be quite a common view that reading and literature are one and the same, practically. True enough, they are in unity in one sense: viz., that they each deal with facts of language in which the object is viewed as expressed for the purpose of producing some effect in the one who studies them. But this view looks only on one side of the question and does not recognize the fact that the interest or purpose in mastering a subject helps to determine its scope, and to set it off from other studies. This is an instance where it is one of the strongest marks of separation. *The purpose in reading is to give the pupil power and skill in interpreting printed discourse; to make one competent in grasping the meaning of printed composition in any form, and incidentally in expressing that meaning in the language of the author. It is not to give a mastery of the thought in the composition except incidentally, notwithstanding it may be valuable knowledge in many instances. A reading lesson may be upon a topic in history, the knowledge of which will strengthen the pupil's work in history, and the teacher may desire that he should know it. His knowing it, however, is incidental, for the main aim is accomplished, so far as school reading is concerned, when the pupil has definitely determined what the meaning is. If the above view of the aim of reading is correct, then the scope of its material is all written or printed facts of language in which the object, real or ideal, is viewed as expressed for the purpose of producing a certain effect in one. Hence, it is evident that reading selections fall into two general classes; viz., selections which express the real, such as those named in "a" and "b" under "The kinds of selections," in the outline given above, and selections which express the ideal, such as those named in "c" in the outline. It means that the pupil is to be given power and skill in interpreting language expressing all kinds of objects as those in science, history, literature, etc.*

The purpose in teaching literature as a branch of study is primarily to bring the ideal truth in the selections in touch with the life and character in the pupil in order to develop true life and character in them, and incidentally to strengthen their power of interpretation. The scope of literature, as a branch of study, is

thus seen to be limited to that form of composition in which the object or meaning is viewed as ideal expressed for the purpose of producing a certain effect in one.

From what has been said, it may be questioned whether school reading should deal chiefly with literary selections, for the reason that all other studies furnish an abundant opportunity for drill in interpreting selections which embody the real. Literature, itself, will furnish opportunity for drill in literary interpretation, and since the field of composition which the average person will be called upon to interpret is very wide in range, the pupil needs very careful and thorough drill in this field. Reading as a branch of study stands in the same relation to history, physiology, geography, etc., that it does to literature as a study: it is to give skill and power to interpret the language of those subjects just as it is to do for literature. *There is no ground for drawing with literary selections prominently, it is on the ground of difficulty in interpretation, and not on the ground of its more intimate relationship with literature than other subjects. Reading is a means to all other studies. Literary discourse is, as a rule, more difficult to interpret because in it the mind must push through the language to a concrete image, and through this to the general meaning or truth, while in didactic discourse it pushes at once to the meaning through the language.*

In thinking of the relative value of the kinds of selections, it must be held in mind that the question is not which furnishes the richest truth, but which furnishes the richest opportunity for developing power and skill in interpretation. The selection and arrangement of material for reading is best which affords the greatest range of difficulty in interpretation, and will furnish the best opportunity for realizing the purpose of the reading work. Of course the difficulty in interpretation should not be due to some outside cause, such as giving a fragment of a selection, like a scene from the "Merchant of Venice", etc.

"The steps in the study of a selection," as given above in the outline are, without doubt, the main ones. I say the main ones because I think there is another step of less importance but of sufficient value to demand some attention, and that is the mastery of the proper oral expression. We are inclined to pass from one extreme to another. A few years ago we did nothing else but have the pupil read orally, and now we are inclined to discard oral reading and do nothing but grasp the meaning of selections. I believe it is better to swing back a little. I am aware that we now look upon oral reading as a good device to be employed in testing the pupil's mastery of the meaning, but

it itself is an art, and the pupil needs training in it according to the theory underlying it, in order that it may be an efficient means. One needs only to ask the average graduate in reading to read a paragraph in any book or lesson to be convinced that he *could* acquire more skill in the art of oral expression.

The order of the steps as given above in the outline is based upon a sound educational principle; viz., that the growth of mind is best promoted when its exercise requires the maximum of its power. To ask the pupil to grapple with the purpose first, in the mastery of a selection is to give him the most difficult problem first, because it lies back of, and is therefore seen through every other point in it. This is true to such an extent that it is really impossible to grapple with it first, because the pupil must plow down to it, and therefore does really take the other steps first, thus making the order of the steps really different.

In reading, as in every other study, the method or mental movement in the mastery of it is determined by certain facts of the subject, and certain principles or facts of the mind. Some of the facts about a reading selection are:—

1. It is a group of distinct facts all focusing in one truth or central thought.

2. A selection is a product of an author's mind which involved certain steps:—

- a. The author is first conscious of some defect or need in society or in himself.
- b. He determines to do something to remove it. (Purpose.)
- c. He thinks of the thought or idea which is adapted to removing it. (Central thought or theme.)
- d. He thinks the expression which is adapted to setting it forth.

Some of the facts about mind which help to determine the method are:—

1. That the mind of the reader moves in the reverse order to that in which the author's moved.

The selection is a product, and the first thing the mind comes to is the language itself, and that which the author had in mind is hidden in this outer form or covering.

2. The mind's general law or principle that in mastering any object it always:—

- a. Grasps the object as a fused or indistinct whole.
- b. It differentiates or analyzes this whole into its distinct elements or attributes.
- c. It re-unifies or distinctly synthesizes the whole.

This is universal principle of mind, and hence expresses its movement in the mastery of any object whatsoever. In the light of these facts,

both of the material and mind, the steps in the mastery of a selection in reading appear to be:

1. *The thinking of the selection as a vague whole.*

This means that the pupil is to be asked to examine the selection as a whole, whether long or short, in order that he may have a vague idea of its meaning. The teacher should give the pupil such directions in the assignment as would require him to examine every sentence in the lesson.

2. *Analyze it, and make every detail distinct, to see what it contributes toward the grasping of a central meaning.*

In the first step the meaning is only vaguely grasped or felt, and in this step every move in analysis, every distinction grasped is to push the central truth more to the light. Here the teacher is to center the attention on important parts or distinctions in the selection, and gradually push down to all the details of meaning. This step should be thoroughly taken. The teacher should not be afraid of close and careful analysis in the thought that the pupil will get a little tired of it, or not enjoy the beauty in the selection, but remember that the pupil is forming a habit and acquiring power that is to follow him into all his other studies and through life. The caution the teacher needs is not to keep the pupil straining to find distinctions when there are no more to find.

3. *The mastery of the central thought or idea.*

Logically and psychologically this step presupposes the other two. In fact they are working toward the central idea all the time, prior to this step as well as in it. Now they must grasp it distinctly as the main meaning of all the facts taken together. In this step the pupil is to grasp clearly the central thought, and show that it is the organizing one; thus thinking the selection as a distinct whole again, but a unity full of distinctions.

4. *The grasping of the author's purpose.*

The effect which the writer of a selection always intends to produce is three-fold; viz., intellectual, emotional and volitional, but one element is always prominent. The pupil should be able to distinguish the three phases of purpose, and in a given selection show which one is emphasized. Hence he would always state the author's main purpose.

5. *The mastery of the oral expression.*

As stated above, this is not the most important step, and hence, emphasis should not be placed upon it. While it is a means of testing the pupil's mastery of the meaning, it is also true that the other four steps constitute an essential means for mastering it. The pupil needs more than the opportunity afforded incidentally, in the course of his mastery of the selection for reading orally a

part of the lesson when it is imperfectly mastered. He needs drill, after the meaning is mastered, in expressing the meaning orally; drill in proper pronunciation, articulation, and in emphasis, modulation, etc., based on the distinctions in meaning.

There are several points which should be considered incidentally in the process of mastering the meaning:

1. *The difficult words.* They should be dealt with incidentally, and not as if they, in themselves, constituted an *organic part* of the selection, and in their mastery, the pupil should be required to use his already acquired knowledge and power over words.

2. *The question of adaptation or correspondence.* This question of adaptation may be a constant one when dealing with steps "3" and "4" as indicated above.

Finally, as suggested early in the discussion, the thing which should have the teacher's chief concern is in having the selection furnish the pupil the fullest round of experience that it is adapted to give him, by putting the stress of attention on the *getting* fully of the meaning and then *some* concern about his power to express the meaning orally in the writer's language.

A. R. CHARMAN.

COMPOSITION.

I. APPLICATION OF THE PROCESS OF DESCRIPTION TO THE WABASH RIVER.

1. The Wabash River as to its co-existing attributes.

1. The purpose the river serves.

1. Drainage of parts of Indiana and Illinois.
2. Highway of travel.
3. It is a promoter of civilization.

2. Cause of the river.

1. Rainfall in Northern and Eastern Indiana.
2. Configuration and environment of Indiana and Illinois.

3. Effects of the river.

1. Furnishes water supply for cities.
2. Promotes agriculture in parts of Indiana and Illinois.
3. Advances the development of the race.

4. Time and place (time here means only the present).

1. Is situated in Northern and Western Indiana and Illinois. Its direction is west and south.

5. Under form the course of the river should be traced from Lake Celina to where it flows into the Ohio.

6. Its length, breadth, and depth at different points and at different seasons of the year must be given under size.

7. The currents at different points, and the force.

The following paper was written from the above outline by a student in one of the composition classes in the State Normal.

The institute may spend a profitable hour in criticizing this paper in the light of the outline and in criticizing the outline in the light of the paper.

Such questions as the following may be suggested: What is the purpose embodied in the paper? Does the paper present the essential attributes of the Wabash? Are these attributes the best that could be chosen in the light of the purpose? Why? Are all the attributes of the Wabash given? Mention some that are not given. Why are these not given? How many attributes must be given? Why is purpose given first, cause next, effect next, etc.? Does the outline present the attributes in the best order? Why? Notice the appropriateness of the language to express the thought.

J. B. WISELY.

THE WABASH RIVER.

Although the Wabash River is not a large stream, comparatively speaking, its purposes are manifold. It with its tributaries drains the central and western part of Indiana and the southeastern part of Illinois.

The area of its basin is about three thousand five hundred square miles. Nearly all this basin is fertile, and is valued at an average of fifty dollars an acre.

The river is navigable, at high water, as far as La Fayette, which is about three hundred miles from where it empties into the Ohio. At one time, about thirty years ago, a small steamer ascended as far as Logansport.

As a promoter of civilization, the Wabash ranks well, because during the period of exploration of the Mississippi and its tributaries, the French ascended the Ohio to the mouth of the Wabash, then pushed their way into the wilderness by way of this river.

Stations for trading with the Indians were established along its banks. The fact that the soil was fertile, and the river furnished means of transportation for the products, induced the pioneers to advance into Indiana and Eastern Illinois. These early settlers cleared away the forests, built the cities, and in the course of years made the river valley what it is to-day.

It is supposed that at one time the Wabash

drained the Great Lakes and surrounding country, and was much larger than it is at present. The glacial drift settled to such a depth that a watershed was formed between the northern lakes and the Wabash. Thus was the area of its basin lessened; but the rainfall of Eastern and Central Indiana is sufficient to require a large stream to carry the water away.

The surface of Central Indiana and Eastern Illinois being rather level, the Wabash is not a swift stream of spasmodic flow, but one of comparative evenness the year round. Its being fed by many springs is one reason for its steady volume of water.

There are no dams below La Fayette, but from there to the source there are many dams and races to carry the water to the mills where it is used as power applied to the water-wheels. Many cities secure their supply of water from this river.

The fertility of the soil causes its basin to be used extensively for agriculture. In the whole Mississippi Valley there are few places that excel Western Indiana and Eastern Illinois in the yield of agricultural products.

The river affording transportation for the products, drainage for the soil, power for the mills, sport for the fisherman, and serving as general scavenger for all, promotes the development of the human race.

Going more into detail, we may mention that the Wabash rises in Lake Celina, or the Great Reservoir, as it is sometimes called, located in Mercer county, Western Ohio; its general direction is southwest. Its course for the first sixty miles is almost northwest, then for one hundred twenty miles its direction is southwest, and for the remaining three hundred seventy miles it flows nearly south, forming one hundred forty-six miles of the boundary between Indiana and Illinois.

It is about eight hundred feet wide and seven feet deep at Logansport. At Terre Haute it is one thousand feet wide and averages about seventeen feet in depth. Its increase is steady, both in depth and width, to its mouth, which is one hundred forty-six miles from the mouth of the Ohio.

There are many islands in the Wabash. About ten acres of Logansport is built on one of these islands. The banks of this river are generally low and of clay. The bottom of the bed is nearly all limestone, but in a few places it is sand. It has but few falls, and in most places, flows at the rate of about four miles an hour when the water is at an average height. At Terre Haute its range from high to low water mark is seventeen feet.

Its important tributaries are the White, Embarrass, Vermillion, Tippecanoe, Wild Cat, Eel, Mississinewa and Salamonie. All these streams are valuable for their water supply and fish. Of the

latter the pike, perch, bass, suckers, and catfish are the common varieties.

EMERSON B. KITCHELL.

JANUARY 20, 1897.

NOTE ON PREPARATION, PRESENTATION AND AP- PLICATION.

I.

Specialization leads to minute classification. There was a time when a few divisions satisfied the botanist and the zoologist. But when the human mind began to penetrate into the details of plant and animal structure, the old classification gave way to a more complex one that would present the various differentiations observed. Every field of endeavor has felt the impetus of this analytic tendency, and in the teacher's work we find a rapidly increasing list of technical terms with which the teacher must keep abreast. The three terms at the head of this paper represent *three phases of the recitation*. It is not our intention to champion the use of these terms; they are terms in common use, and familiar to many of our readers. We hope, simply, to suggest a reasonable use of them with some illustrative work. In order to make the suggestions more definite, we use Whittier's *Skipper Ireson's Ride* as a basis.

II.

At the outset it should be kept in mind that these terms are only relative. A recitation can not be divided into three equal parts and labeled as above. In the study of some poems, for instance, the stage of *preparation* as a special division of the recitation will practically disappear. *Maud Muller* has very little in it that needs preliminary attention. Again, it should be observed that it is not necessary to do all that is included under the first term before passing on to the second, or all under the first and second before passing on to the third. Sometimes it seems the three phases can best be carried along together. This is especially true of a long selection; say a play of Shakespeare. The suggestion is that the three phases are always present. By *stage of preparation*, then, is meant the clearing away of preliminary difficulties, so that the pupil's mind may be ready to take up without obstruction the points of the lesson. In *Skipper Ireson's Ride* it would mean the clearing up of all points of language or allusion which are new to the pupil. Thus it is suggested that the explanation and discussion of the following points, amongst others, would come under this head:

1. Enough of the story of each of the four rides mentioned in stanza one to impress on the pupil's mind the one point about them which Whittier wanted to use—

their strangeness. If the class is advanced enough to appreciate the discussion, Whittier's confusion of the Calendar stories may be brought out.

2. The Marblehead dialect as used in the refrain, with its most noticeable peculiarities.
3. Bacchus and the Maenads. (Stanza 3.) A picture of an antique vase with such a representation on it as that mentioned by the poet would help the children much. In its absence, such a description of Bacchanalian orgies as the ordinary text on mythology gives, must answer.
4. Marblehead and Chaleur Bay should be located for the sake of giving definiteness to the story.

It may be found necessary to bring out the meaning of many other points; as, "hulks of old sailors," "cracked with curses," "Indian idol," "hand of God," etc., before the class completely grasps the idea of the poem. However, the matter may be easily overdone, and not enough credit for ordinary intelligence given the child.

III.

As applied to the selection under consideration the stage of *presentation* would consist in bringing vividly before the pupil the details of Ireson's ride with the thought embodied therein. The following may present the line along which the discussion should move:

1. What comparison is made between the rides mentioned in stanza one and Skipper Ireson's Ride?
2. Describe the appearance of the skipper as he was hauled up the rocky lane.
3. What was the intention of the women in treating Ireson as they did?
4. What was their feeling toward the skipper?
5. What was the cause of this feeling?
6. Did the crime committed justify their strong feeling toward him? Did it demand a severe punishment?
7. Give an account of the trip through the town.
8. Show in what respects the ride was well-planned to accomplish what the women intended.
9. Did it result as anticipated? Give an account of the final scene in the ride. Who first suggested the loosing of Ireson? Why?
10. Show why the ride was a failure.

This list may easily be elaborated at pleasure. Sometimes the question asked may not bring out the response wanted, and will need to be supplemented by others. It will be found interesting

after the class have pointed out the common element of strangeness in answer to No. 1, to ask in what the strangeness of Ireson's ride consisted. In the main, and naturally enough, they will point out the oddity of his appearance, or the fact that women conducted the affair, or something of that sort. When the discussion is over, many will see that such an answer is superficial. No. 3 will bring out the idea that the intention was to mortify, or humiliate Ireson. Nos. 4, 5 and 6 will bring out the idea that the women wished to accomplish this end to satisfy a thirst for personal vengeance for the wrong committed. Nos. 7 and 8 will show further that nothing was wanting to fit the punishment to this end. And yet, No. 9 will bring out the fact that the ride was a dismal failure. Here, then, is the *real strangeness* of the ride: Ireson is so completely under the sway of "the horror that lives within" that he fails utterly to be touched by "the shame that clothes the skin."

IV.

We are ready now for the *application*, that touch which will bring the content of the selection into connection with our own lives. The answer to No. 10, above, really suggests it, and it may be further impressed by considering the question: What is the greatest punishment that one can experience for a wrong committed? It is always a point for difference as to how far the practical application of a literary selection should be pushed. Sometimes the ethical "twist" in a poem is magnified beyond its proper proportions. It is not likely, however, that one will see *more* of the "moral" in one of Whittier's poems than Whittier intended, although he may see it too exclusively. The teacher should do enough, at any rate, to have the pupil see that the poet had a great insight into life which we all need. C.

A FEW OF THE STRONG POINTS IN A GOOD MUSIC COURSE.*

Every course in music for public schools has many strong points—and doubtless there are weak points as well—since the composer, writer, compiler or teacher has never yet lived whose work was pronounced flawless by friend and foe alike. The rapid growth of music in point of pedagogical importance during the last ten years has served to bring down an avalanche of public school music upon the defenseless heads of pupils, teachers, parents, trustees and the public at large, and the results are not always of advantage to the cause of music. The fact that politics, in some cases, and expediency in others, control to a large extent the adoption or rejection of a prescribed course in music in many schools has often prevented the best use of the course finally adopted, and the poor results have reacted not only against that particu-

*Natural Music Course, by Ripley and Tapper. Cincinnati: American Book Co.

lar system of music, but against the subject of music as a necessary and valuable part of public school work. Therefore, it behooves *those upon whom devolve the duty of selecting music material* for the school to inquire closely into several points, viz: The desirability of the material, and its progressive arrangement, (a) as being adapted to the needs of the child at each stage; (b) as having a tendency to lead to a higher, broader view of music than a mere technical knowledge could give; (c) as being arranged in such a manner that the regular teacher may direct the music study with profit to the pupil; and (d) as to the appropriateness and consequent value of the literary material incorporated.

In looking through the charts and readers comprising the natural course in music, I was impressed with the general usefulness of the material. Having been brought up to think that *Do* was the principal thing, and that having *Do*, the scale was the same, and the relation of its tones the same, regardless of sharps or flats, it gave me great pleasure to note the practical manner in which that idea had been developed by Messrs. Ripley and Tapper: likewise the manner in which each point once introduced, is incorporated in each succeeding lesson until there is no possible chance for a child of average ability to fail to understand it. Each point is considered a part of one grand whole, and as such, is worthy of the most careful study. The simplicity of the exercises in the primer is to be commended, since form, like melody, should not be too complex early in the course. Each exercise is a little melody, or tune, and is short enough to allow the child to enjoy the feeling of conquest, which in my mind is one of the pleasant things in the study of any subject. Much prominence is given to the study of the scales, their relationship one to another, and tone relationship, by means of the charts that precede the use of the primer, and upon this point rests the success or failure of any teacher, with any course of music. The family of tones and their relationship to each other is the basis for all music study, and the importance of careful work here cannot be over estimated. As much melody is found in the lower part as in the upper part of the two-part exercises, and the various difficulties of tune and time are so musically presented throughout the course that it is very evident that the authors became as little children in the truest, best sense while writing or arranging the material for their use. The books are not overloaded with useless material, yet they contain an abundant supply for the needs of graded schools. The tendency is constantly toward the higher forms as the work progresses, thus cultivating an interest in, and appreciation for the classics in music—the one thing needful in this new land of ours. Two points that are in a sense peculiar to this course and of growing importance are the vocal drills and the dictation exercises. We need to make smooth the rough voices that come to us, and these vocal drills are designed to aid in accomplishing that end. Music is not a real possession of the child until he can recognize and write down musical thoughts, whether presented by the teacher or thought out by himself, just as he can write sentences when given by the teacher, or originated in his own mind. Many children are able to think tones who are unable to represent them, and the dictation work in the Natural course would un-

doubtedly develop this power. It is to be hoped that teachers will consider carefully this point, test it in their schools, and follow the plan indicated by the authors of the Natural course in music. Why not write a musical sentence as easily and correctly as we write a sentence in English, German, or any other language? The proper time to acquire this command of music materials is the same as that in which we acquire the command of language materials, and the proper way to use it is most clearly and concisely set forth by Messrs. Ripley and Tapper in their series of charts and readers, of which point I will speak at another time.

In the advanced books of the course, chromatic tones and minor scales are quite fully treated, and the more complex musical forms and combinations of tones are ably presented in the various exercises and songs, thus providing for the needs of high schools and advanced grades. The practically undeveloped voices of girls and boys in the high school do not easily sing very low or very high tones; in fact, it is an open question as to whether they should be required to do so. This point must have been in the minds of the authors when they arranged the exercises for the books of the course designed for advanced grades, as they seem to have been written within the compass of the average voice—and most of the voices in the world are average voices—adding very materially to their usefulness. Exercises that cannot be used in regular school work are not going to advance the cause of music very rapidly.

Two points may be deferred to another time: (c) as being arranged in such a manner that the regular teacher may direct the music study with profit to the pupil; and (d) as to the appropriateness and consequent value of the literary material incorporated in the Natural course.

CARRIE B. ADAMS.

TERRE HAUTE, IND.

THE SAFEGUARD OF LIBERTY.

Build high the schoolhouse walls,
Wide the foundations lay,
Banish the olden night
And herald freedom's day!

Better than iron laws,
Better than navies great,
Better than prisons grim,
To make a perfect state.

Glory and honor are ours,—
We of the Western world,—
Glory and honor and fame
Where our eagle's wings are furled.

Our's the duty great
To keep all pure and free,—
A steadfast star in the heavens
That all mankind may see.

Build high the schoolhouse walls,
Wide the foundations lay,
Banish the olden night,
And herald Freedom's day!

U. FRANCIS DUFF.

SOCORRO, N. M.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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We are very anxious to have copies of four back numbers that are out of print. While we always allow what seems a good margin for extra demand, the call for some issues has long ago exhausted the supply. For copies of the SEPTEMBER, 1895, number we will give an extension of three months to the subscription of the one sending it; for copies of MAY, SEPTEMBER and OCTOBER, 1895, we will give an extension of two months each. Copies must be in suitable condition for binding and should have the sender's name and address written plainly on the wrapper.

The subscribers will please note that the yellow label on THE EDUCATOR indicates the time to which subscription is paid. Sometimes remittance is received too late for the change to appear the month following. Thus, any payments sent after January 20th will not be indicated until March. Note this point as it is our method of acknowledging receipt of subscription.

* * *

We regret that owing to lack of space we have not been able to give as much space to the recent meeting of the Indiana State Teachers' Association, or to pending school legislation as their importance warrants. This number contains two of the papers read before the Association. We also give an abstract of the proposed school legislation.

* * *

A New Volume. With this number our fourth volume begins. We wish once more to thank our many friends for their kind encouragement. We have been trying to carry out the promises we made when THE EDUCATOR first appeared for a public hearing. While many changes in details have been necessitated, we have been enabled to more than compensated for them in other directions. The subscription list has gradually grown from nothing until at the end of our eighteenth issue it has reached the magnificent proportions of 13,000. It should be noted, however, that the amount and quality of matter in THE EDUCATOR, the fine quality of paper used and the care taken in its appearance makes in a very costly affair to the publishers. To make it remunerative requires a large subscription list, and promptness on the part of our subscribers in paying the nominal subscription rate.

* * *

A Correction. By an unfortunate oversight, the article on Sociology which appeared in the Primary Department for January, was not properly accredited.

It was written by Miss L. Isobel Davidson, principal of the Lincoln school and head kindergartner of West Superior, Wis. Miss Davidson is known to many primary teachers of this state, having had charge of primary work last summer at the Winona Assembly.

* * *

The Geeting Educational Bill:

A measure known as The Geeting Educational Bill has been introduced in both branches of the present General Assembly of Indiana. The bill is substantially in keeping with the ideas that THE INLAND EDUCATOR has strongly advocated from time to time during the past few months. It, at least, begins at the right place and tries to strengthen the weak points in our school system. We have urged from time to time that Indiana needs to move forward along educational lines and we think that the recommendations of this act indicate the place to begin.

We are unable to present the measure in full,

but wish to call the attention of our readers here to the points in the bill that are substantially new. *First*, it provides that at least one term of school, not less than six months in duration, shall be taught in every school district and town of the state during each school year. *Second*, it requires trustees either to establish and maintain in their respective townships, towns, and cities at least one separate high school, or to pay the tuition of pupils of their townships competent to enter a high school, in case they can make suitable arrangements with other corporations. *Third*, it makes the term of the county superintendent a period of four years instead of two. *Fourth*, it provides that no person shall be eligible to, or shall hold the office of county superintendent unless he holds at the time of his election, a life or professional license to teach in the public schools of the state, or a special certificate (to be valid for a period of four years if not revoked by the State Board of Education), to be called a "County Superintendent's Certificate" issued by the State Board of Education, or has served one full term as county superintendent in some county of this state immediately preceding the date of his election; but on and after the first Monday of June 1901, no one shall be eligible to the office of county superintendent unless he hold a county superintendent's certificate at the time of his election. The State Board of Education shall have the power to adopt rules and regulations for the examination of applications for county superintendent's certificates, prescribe in what branches they shall be examined, and what qualifications they shall possess to entitle them to receive such certificates. *Fifth*, it makes the function of the county superintendent supervisory rather than clerical. *Sixth*, it provides that public examinations shall be held beginning on the last Friday of January, March, May, July, September and November of each year and extending into the succeeding Saturday if necessary. *Seventh*, it provides that the county superintendent shall examine at such examinations by a series of written or printed questions furnished him by the State Board of Education, all applicants for licenses as teachers for the common schools of the state; which license shall not be confined to any particular county, but be taken as qualifying the person to whom granted, so long as enforced, to teach anywhere within the state if of the proper grade for the school for which he may be employed. Each applicant, before the examination begins, shall pay to such county superintendent a fee of fifty cents. The county superintendent shall send all fees so collected to the state superintendent who shall carry such amounts to the account of the State Board of Education which shall use such funds in the employment of a sufficient number of qualified persons to grade the manuscripts and perform the services incident to such a licensee system. No examination shall extend over a period of more than two days. The manuscripts of the applicant together with the fee named and the grade of "School-room Success" shall be forwarded by the county superintendent to the office of the Superintendent of Public Instruction for gradation. *Eighth*, it makes the office of county superintendent a salaried office. In counties having less than 15,000 population the salary shall be \$1,000; in counties having 15,000 and less than

30,000 the salary shall be \$1,200; and in all counties having 30,000 and over the salary shall be \$1,500. *Ninth*, it provides that school trustees of incorporated cities and towns shall have power to employ a superintendent of schools whose term of office shall be four years. It also provides an educational and professional qualification for such superintendents.

These are the principal new features that the measure would introduce into our system. Of course, teachers and superintendents will understand that such a law would not at all affect the tenure of present incumbents.

So far as we understand the educational status of Indiana we do not see in the law a single provision but what would be beneficial to teaching as a profession. Every friend of progress in education will certainly favor every point in this measure. It strengthens the weak places in the system and provides admirably for better supervision which is the first step necessary to a higher grade of teaching.

* * *

State Library System.

Another measure of importance to school teachers is that introduced by Senator McCord to establish a state library system in connection with the public schools of the state. *First*, it places the management of the state library and the state library system in the State Board of Education. *Second*, it provides that this system shall include all county, city, town and township libraries supported wholly or in part by public funds, and such other libraries as may comply with the rules and regulations of the State Board. *Third*, it places the management of local public libraries in the hands of school trustees of towns, townships or cities. *Fourth*, it places the election of the state librarian in the hands of the State Board and fixes the term of office for two years. *Fifth*, it makes the state librarian the executive officer of the state library board in the administration of the state library and the state library system. *Sixth*, it provides that trustees can only purchase books, maps, charts, furniture or supplies upon the recommendation of the State Board as to their merits. *Seventh*, it provides that the township trustee of every township and the school trustees of every town in the state shall each calendar year take from the special school funds a sum of not less than fifteen cents for each person between the ages of six and twenty-one years, and pass said sum to the library fund of the township, which fund shall be expended by the trustees and county superintendent for no other purpose than the purchase of books for the libraries. There are many minor features which we cannot print here, that, together with the points mentioned, would give us a very efficient system. In this day of books and libraries surely ample provision ought to be made in order that every child in the state shall have access to the best there is in literature.

* * *

Pensioning Teachers. The belief that teachers who have devoted a greater part of the best years of their lives to teaching should be retired on part pay, seems to be gaining favor. Indeed, state pension laws have already gone into effect in Ohio and Illinois, while several

cities have enacted ordinances providing a retirement fund for their own teachers. All plans adopted thus far agree in the essential features, namely: that the fund shall be raised by a tax of one per cent. per annum on the salaries of teachers and by moneys donated for that purpose; that no appropriation of the public money shall be made for the fund; and that only those who have taught a specified number of years—periods ranging from twenty to thirty-five years—three-fifths or more of which shall have been in the city or county where the pension is granted, shall be entitled to the benefits.

Educational Association of New Mexico.

The teachers of New Mexico met in their annual association at Socorro, N. M., Dec. 28-31. In this land of magnificent distances where one may travel two hundred miles or more by the shortest route to reach some central point, and where railroad rates are four cents a mile, attendance usually means something of a sacrifice, and those who attend do so with the purpose of getting the most possible good from the association. Such a purpose is usually reciprocal in its influence, and consequently no more enthusiastic group of teachers can be found anywhere than that which gathers annually in the territory of New Mexico.

Their progressive spirit may be seen in resolutions passed asking the legislature to abolish boards of county examiners, placing their powers and duties in the hands of the Territorial Board of Education; and to apply the principles of civil service to all educational institutions in the territory. An interesting paper on Civilizing Apaches was presented by Lieutenant Stottler, and will be given to our readers in an early number of THE INLAND EDUCATOR.

A Well-Earned Compliment. Few people would have guessed that the highest educational official of the United States received a salary of only \$3000 per year, yet such has been the case. All who know the present commissioner, Hon. Wm. T. Harris, must feel it a shame that such ability as his should be so meagerly rewarded; while at the same time it must heighten esteem for a man who labors so diligently, and apparently never complains of the inadequate pay. Such conduct by the most eminent educational philosopher now living proclaims him the ideal teacher and the true philanthropist.

The friends of Commissioner Harris will unanimously approve the movement that was begun during his absence in California to increase the salary to \$5000. Congress could not do less.

Department of Superintendence.

We wish to remind our readers again of the meeting of the Department of Superintendence at Indianapolis February 16, 17 and 18, 1897. The meeting promises to be one of great interest and importance. A rate of one and one-third fare for the round trip on the certificate plan has been granted by the railroads. We are sorry that we are not yet able to print a complete program, but in so far as we have the program, it will be as follows:

TUESDAY, FEBRUARY 16.

A. M. TOPIC—PRIMARY COURSES.

Report of Committee on Primary Courses of Study, by Dr. W. N. Hailman, Washington, D. C.
Paper on the Report, by State Superintendent Nathan C. Schaeffer, Harrisburg, Pa.
Discussion, led by Dr. E. R. Shaw, University of City of New York.

P. M. ROUND TABLES.

On State Superintendence, led by State Commissioner O. T. Corson, Columbus, Ohio.
On County Superintendence, led by W. H. Senour, Brookville, Ind.
On School Curricula, led by Superintendent C. G. Pearce, Omaha, Neb.
On Child-study, led by Professor M. V. O'Shea, Buffalo, N. Y.

EVENING.

An Address.

WEDNESDAY, FEBRUARY 17.

A. M. TOPIC—ART.

Art in Education, Halsey Ives, St. Louis, Mo.
Teaching Drawing, Col. Francis W. Parker, Chicago Normal School.
Discussion.

P. M. TOPIC—SUPERVISION.

The Province of the Supervisor, Superintendent L. H. Jones, Cleveland, Ohio.
Supervision as Viewed by the Supervised, Miss Sarah C. Brooks, St. Paul.
Discussion, led by Superintendent C. F. Carroll, Worcester, Mass.

EVENING.

Music in Education—an illustrated lecture, by Professor W. L. Tomlins, Chicago, Ill.

THURSDAY, FEBRUARY 18.

A. M. TOPIC—SOCIAL PROBLEMS.

Relations of Teachers to Citizens—
First paper by Superintendent Samuel T. Dutton, Brookline, Mass.
Second paper by Dr. Ida C. Bender, Buffalo, N. Y.
Discussion, led by Superintendent R. H. Halsey, Hampton, N. Y.

P. M. ROUND TABLES.

On State Superintendence, led by State Superintendent John R. Kirk, Jefferson City, Mo.
On Summer Sessions and the Divisions of the School Year, led by Superintendent O. T. Bright, Chicago, Ill.
On Libraries as Related to Schools, led by Melvil Dewey, Albany, N. Y.
On College Entrance Requirements, led by Assistant Superintendent A. F. Nightingale, Chicago, Ill.
Round Table of the Herbart Club.

EVENING.

An Address.

We have to confess to an error in the solution of problem 6 of the State Board Questions in arithmetic discussed in our January issue, page 333. While the mathematical editor was enjoying his Christmas vacation, our office devil was pressed into service to work out these questions. He merely misplaced a decimal point, but even that seems unpardonable. However, he apologizes and submits a revised solution:

2 pounds 9 ounces quinine at \$38. per pound = \$97.375.

2 pounds 9 ounces = 17937.5 gr. or 1793.75 doeses.

$1793.75 \times .20 = \$358.75.$

$\$358.75 - \$97.375 = \$261.375$ gain.

The Treaty Signed. Secretary Olney and Sir Julian Pauncefote affixed their signatures to the Arbitration Treaty between the United States and Great Britain, January 11th. By this new agreement the two English speaking nations pledge themselves to refer to

a court of arbitration all questions of controversy for a period of five years. The single exception is that neither nation shall yield its dignity or its honor to the judgment of arbitration. The treaty went to the Senate with an earnest request from President Cleveland for its ratification, but there seems to be an unfortunate disposition on the part of certain senators to delay action if not to defeat the treaty altogether.

* * *

Famine and Plague. The distress in India is unabated. The famine is so wide-spread that the best efforts of the government fail in many places to relieve the poor from starvation. At the same time, debility through lack of food leaves the sufferers more susceptible to the pestilence which they call the *black death*. The disease resembles cholera in many respects, only it is more contagious; the cholera germ must reach the intestine to be propagated, while the bubonic germ, as it is called, takes root any where in mucous membrane, or even in a slight scratch or cut. Like nearly all virulent contagious diseases, it thrives best where filth and squalor exist, so that there is little fear of its spread in districts where proper health regulations are observed.

THE FORTY-THIRD ANNUAL MEETING OF THE INDIANA STATE TEACHERS' ASSOCIATION.

The recent meeting held in Indianapolis was a very successful one. It demonstrated by its numbers that Indiana teachers are growing in earnestness; it demonstrated by the make-up of the teachers present, and by their interest in the subjects discussed, that they are students of the real problems in education. Nearly every phase of school work was represented in this meeting. In



PRESIDENT J. F. SCULL.

fact, if we should offer any criticism upon the organization, we should say that it is too much sectioned. We believe that much power for good has been lost by this growth of the number of sections. However, our opinion is evidently not in

accord with the opinion of the large majority of teachers over the state. We would not do away with a single section that has been organized, but we would suggest two ways of making all these organizations most effective: The first, and we think, the best way, would be for each section to have its meeting at some other time during the



CHAIRMAN W. A. HESTER.

year, just as the city and town superintendents do. Then this general meeting would prove of larger interest and of more benefit to all. Of course, the tendency might be at once to reduce the attendance upon all these meetings, and this would be very objectionable. But if the same interest could thus be given to sections, and the same large attendance secured upon the general meeting, this would be very desirable. The second way, which is practicable, would be to arrange all the meetings of the general association first, and have no special meetings at the same time. This would be the more satisfactory arrangement even if the time must be extended. Again, the meetings of the College Association and the Teachers' Association should not conflict. We do not understand that these associations are at all connected, but there are surely many teachers in the state who are interested in both meetings, and it is impossible to attend both. We suggest that for the next meeting one or the other change its date. We take pleasure in presenting to our readers the features of President Scull and Chairman Hester, who did everything in their power to make the meeting the success it was. Nor are we at all unmindful of the excellent service performed by all the other officers. We congratulate them one and all.

* * *

Indiana College Association. The first session of this association was given to the subject "The Bible as Literature in a College Course." The paper read by Professor Elbert Russell of Earlham College was an admirable presentation of the subject. The discussion by President Parsons was a clear, forceful argument in favor of the study of the Bible

in our colleges. Professor Henry while agreeing with the paper and the discussion made some pointed illustrations of some of the difficulties that might arise in teaching the Bible as literature.

President Butler's address was, he said, an apology for the existence of the denominational college. He set forth the advantages of the small college over the university and gave it as his opinion that it would survive and fill a place in education which no other institution can fill. Other papers of interest occupied the attention of the members for the remainder of the session. Professor W. L. Bryan of the State University was elected president for the coming year.

* * *

College and High School Conference.

Perhaps no more helpful meeting was held than the joint meeting of College and High School. For the last two years the colleges and high schools have been trying to understand each other on the English question. The colleges of the state have complained of the poor English acquirements of students coming from the high schools, and the result has been a mutual search for a solution to the problem. On this occasion the subject for discussion was "The Relation of English to Other Subjects," and the principal speakers were Professor John B. Wisely of the State Normal, Miss Sidelia Starr of DePauw, and Mrs. A. B. Corsett of the Evansville High School. What they had to say was carefully thought out and as carefully presented. The general discussion that followed furnished opportunity to a great many to say *something*, to a great many to say *nothing*, and amply demonstrated the need of training in English. The meeting was a very helpful one.

* * *

General Association The meetings of the general session were fairly well attended, but we thought we noticed a lack of interest, occasioned by too many sections, and by the simultaneous meetings. Really there were some strong, interesting papers read, and we wished every teacher in the state could have heard them. President Scull in his opening address dwelt upon the importance to the teacher of knowing the child, and laid down what he considered some of the principles and characteristics of good teaching. His address was much appreciated by those who heard him.

The points made by Mrs. Campbell in her paper on "Closer Supervision of County Schools," were in harmony with the views of THE INLAND EDUCATOR, and have received our indorsement from time to time in recent numbers.

The morning session on Wednesday was occupied by a symposium on "Child-Study," which proved to be one of the most interesting features of the week. The four papers by Superintendent Harter, Professor Culver, Mrs. Hornbrook, and Professor Bryan, were all very well received and favorably commented upon by those present. We present the paper of Superintendent Harter in full in this issue.

The papers of Superintendents Shannon and Call on "Nature Study in Elementary Schools" will appear in THE INLAND EDUCATOR.

The address by Dr. Jenkin Lloyd Jones of Chicago, on "The Cost of an Idea," while very helpful, and much enjoyed by the teachers, was not

so satisfactory to us as the living words from some great teacher would have been.

The closing session on Thursday morning was a helpful one. An excellent paper on "The Teacher's Personal Influence as a Factor in Education" was read by Miss Mary Doane of Purdue University, and discussed by Superintendent Ogg of Greencastle. "The Teacher's Preparation" was the subject of a bright paper by Miss Marie Dunlap, whose sad death we record in this issue. This paper was pointedly discussed by Superintendent Scholl.

The last paper of the session, on "The New Geography," by Dr. Dryer, discussed by Superintendent Busby, was one of the very best of the week, and we are pleased to present it in full in this number of THE EDUCATOR. Superintendent R. A. Ogg of Greencastle, was elected president for the coming year, and Superintendent Fitzgibbon of Elwood, was made chairman of the executive committee, with F. D. Churchill, J. P. Funk, B. A. Ogden, B. F. Moore, W. H. Sims, J. M. Culver, F. M. Searles, and W. A. Hester as members. The efficient services of the recording secretary, Miss Emma B. Shealy, and the secretary and treasurer, J. R. Hart, were recognized by the retention of them in these offices.

* * *

High School Section.

The High School section held one good session at which about 150 principals and teachers were present. The meeting was an interesting one. The principal speakers were Principal Wilbur A. Fisk of Richmond, Superintendent Oscar R. Baker of Winchester, Miss Kittie Palmer of Franklin, Superintendent Ayers of LaFayette, Superintendent J. W. Hamilton of Monticello, and Principal C. T. Lane of Ft. Wayne. The new president is J. C. Trent of Indianapolis, with Principal C. S. Meek of Terre Haute as chairman of executive committee.

* * *

English Section.

The interest in English was shown again by the number of earnest teachers who attended this meeting. There were three papers read and discussed. Probably the one calling out the greatest expression was that of Mrs. Angeline P. Carey of the Indianapolis high school. Her subject was "A Plea for Uniformity in the Criticism of Composition." She thought that a special teacher should be provided to devote his entire time to the criticism of papers. This idea was opposed by Professors Sampson and Bell. It seems to us that this work is mechanical enough already and should not be made more so. Other papers were read by Miss Adelaide Baylor of Wabash, and Professor Trueblood of Earlham college. Professor W. E. Henry of Franklin college was elected president.

* * *

Mathematical Section.

The mathematical section of the State Teacher's association had but one session. This was held in room 122, at the state house. Those present entered heartily into the discussion of the papers presented, which were as follows:

"The Binomial Theorem and Convergence," by Professor M. C. Stevens, Purdue University; "The Teaching of Algebra in High Schools," by Miss

Kate Wentz, industrial training school, Indianapolis; "Evolution in Arithmetic," by Professor R. L. Sackett, Earlham college.

Miss Wentz, in her paper on the teaching of algebra, urged the teaching of equations graphically. This method seemed to meet the general approval of the teachers.

Professor Sackett, in his paper, advocated the teaching of involution and evolution in arithmetic simultaneously. He also indorsed the introduction of algebraic methods in solving arithmetical problems. The future plan of conducting the section was left to the executive committee for solution. J. H. Hayworth of Edinburg is the new president.

Classical Section.

This was the second meeting of this section and it was an enthusiastic one. Professor A. I. Dotey, who was largely instrumental in its organization last year, was the presiding officer. "The Three Years' Course in Latin in Our High Schools" presented by Professor Johnston of the State University, and discussed by Professor H. M. Kingery of Wabash College, probably called forth the most profitable expressions. Dr. Edwin Post of De Pauw University was chosen president for the coming year.

Music Section. There was a splendid attendance at this meeting showing an increasing interest in this branch of work in the schools. There were no regularly prepared papers, the program consisting of short experience talks on several topics. J. M. Dungan insisted that a child on entering the high school should have considerable experience in musical work. Reading of music in all keys and ability to transpose, he thought, should be required. "In fact," he said, "the knowledge of notes should be general and there should be ability to sing without instrumental accompaniment."

W. E. Brown, in a few words, spoke of interesting children in music by using attractive measures and when the child was once interested the teacher should not let the interest die out.

Miss Laura E. Jennings of Lawrenceburg gave a vocal solo, singing Mendelssohn's "Song of the Savoyard."

At an adjourned meeting there were present in addition to the music teachers a number of the county superintendents of the state. The principal discussion was on the general subject, "How Can Music Be Made More General in the Country Schools of the State?" The general trend of the discussion showed that music has made slower progress in the educational work in the township schools than any of the other branches. In many of the schools it is not taught at all. It seemed to be the general sentiment among the teachers to have music made one of the necessary studies owing to its refining influence.

W. W. Pfimmer read several poems, and there were several musical numbers rendered. The officials of the section were elected the preceding afternoon. Miss Charlotte Longman of Terre Haute is the new president.

Academy of Science. This organization proved so large an affair, with so many papers read and discussed, that it is impossible for us to do more than mention it. President Stanley Coulter read a much appreciated

paper on "Science and the State." Professor Thomas Gray, of the Rose Polytechnic, was chosen president for the new year.

County Superintendents.

The county superintendents held some very interesting sessions. The subjects for general discussion were "The Transfer Question," "The Educational Bill," and "The Library Bill." The following resolutions were adopted:

1. That we endorse the state superintendent's recommendations as found in his circular of recommendations on the subject of "Township Graded High Schools."

2. That we endorse the recommendations of the state superintendent on the "School License Law."

3. That we endorse the recommendations of the state superintendent concerning "School Libraries."

4. "That a man to be eligible to the office of county, city or town superintendent of schools should hold a state license—life or professional—issued by the State Board of Education, or have served one term or more in the office, and that the office of county superintendent be made a salaried office."

Two live papers which we wish we had space to produce in full were read, one by Superintendent M. U. Johnson of Madison county, on "Should We Have Closer Supervision for the Country School?" and the other by Superintendent E. G. Machan of LaGrange county, on "Should Township Trustees Furnish High School Privileges to the Graduates of the District Schools?" These papers were thoroughly discussed and were productive of much good. The meetings were helpful and showed that the county superintendents are in favor of progress.

Reading and Elocution.

The fourth annual meeting of Reading and Elocution was held at the state house December 31st. There was a good attendance both morning and afternoon. "Reading in the High School" was the title of the first paper, by Miss Bertha Frances Wolfe of the Jeffersonville High School. The writer insisted that the most important reform now being agitated is that calling for the teaching of reading in the high school.

T. J. McAvoy read a paper on "Gesture and Its Limitations." It contained many practical helps for developing individualism in children, and strongly condemned teaching that produces mechanical results. He said: "Gesture is an art. Any gesture is the product of the whole physical apparatus, but the face must be so expressive that the action will be felt and not seen."

"The Literary Phase of Reading," by Miss Emma Z. Craig of the Garfield school, Richmond, was much enjoyed. "Good oral reading is impossible without proper interpretation."

Miss Craig's paper was very instructive. Mr. N. W. Trueblood of Earlham College, Mrs. M. W. Hamilton, Mr. Sherrick of Westfield, and many others entered into the discussions.

Mr. T. J. McAvoy was elected president of the section for the ensuing year, and Miss Bertha H. Hosford teacher of elocution in Edinburg schools, secretary and treasurer.

Indiana Library Association.

This organization has enjoyed a steady growth from its foundation, five years ago. All persons who have an interest in public libraries are eligible to membership upon the payment of a small fee.

The leading feature of the recent meeting was an attempt to benefit the smaller libraries of the state by a method similar in character to that pursued in teachers' institutes. Miss Cornelia Marvin of the Armour Institute of Technology, who has had considerable experience in the teaching of modern library methods, was chosen to give a series of lectures upon the following subjects: ordering and accessioning, classification and cataloguing, shelf-work, charging systems, binding and repair of books, reference work, library reports and statistics, access to shelves. Though such subjects might be considered dry and technical in character, all the lectures were well attended and interest was sustained throughout the course.

Wednesday afternoon A. V. Babine, the newly elected librarian of the State University, gave a paper on the "Problems and Possibilities of a College Library," and Miss Maria Hoagland of Fort Wayne, one on "Clubs and Libraries," both of which were well received.

In the same session the matter of library legislation came up for discussion. Superintendent Goss gave the draft of a bill which was meant to embody the best views of both teachers and librarians, looking towards the systematic establishment and management of libraries. The bill provides that the State Board of Education shall have supervision and control of the State Library and of libraries organized in accordance with the provisions of this act, with the State Librarian as its secretary and executive officer. It is recommended that a tax of 15 cents for each child of school age be levied in each district, the proceeds of which are to be invested in books selected from a list compiled by the State Librarian. This requirement in regard to the selection of books does not apply beyond the limit of three thousand volumes. The thousand-dollar restrictive measure of the old law is repealed, and provision is made for traveling libraries—features heartily endorsed by the entire association.

The bill was criticised mainly for its rigid character and for dealing most too minutely with a movement which is already doing well. Mr. Dunn objected to the bill on the ground that the school was too small a unit for the formation of anything that could be called a library, and strongly advocated centralization in township libraries.

Mr. Rutherford P. Hayes spoke for the establishment of a library commission distinct from the State Board of Education and similar to the library commissions of other states. Such a body is usually composed of from three to five persons, who, appointed by the governor and serving without salary, have control of the State Library and exercise advisory functions throughout the state in matters relating to the formation and management of libraries. In connection with the State Library there is now usually added a system of traveling libraries, by means of which clubs or small communities throughout the state may enjoy a choice selection of books for a period of several months, by complying with certain rules

and regulations and by paying the cost of transportation. The indexing, publishing, and distribution of public documents should become a function of the State Library. The commission not only exercises advisory functions, but may also render substantial aid by small appropriations of either money or books to supplement the efforts made in particular communities in starting libraries.

In the discussion which followed there was a marked appreciation of all such work, but there appeared considerable objection to asking the legislature to create a new official body, especially since the State Library was only recently transferred to the control of the Board of Education in great part through the influence of the Library Association; nor did there seem sufficient reason why the Board of Education could not discharge all the duties of a special commission, at least in the infancy of the movement. The close union of the library and school, remarkably close in our own state, is an excellent reason for keeping them both under one management.

The Primary Teachers.

A new organization was affected by the primary teachers with Mrs. Sarah E. Tarney-Campbell as president, Miss Anna Lupton of Richmond as secretary, and Miss Helen Robb of Worthington, Miss Saddler of Shelbyville, and Miss Trimble of Evansville, as executive committee.

Child-Study Society.

A society for child-study was organized with Professor Bryan of the State University as president, and Professor Howard Sandison of the State Normal as secretary and treasurer. The first meeting for this society was appointed at Bloomington at the time of the Child-Study Congress in May. All persons desiring membership in this society should address Professor Howard Sandison, Terre Haute, Indiana.

The Association Headquarters.

The task of an executive committee is at best a thankless one, and when in some quarter there arises cause for censure, as lookers-on we are apt to criticise the committee unjustly. Whatever inconvenience or discomfort the teachers experienced at the hotel where headquarters had been arranged must not be attributed to the committee. The accommodations at the Denison hotel were, in the main, unsatisfactory—and that is putting it mildly. It is customary for the executive committee to receive bids from the different hotels for the entertainment of the association, and to designate as headquarters that hotel which offers the best terms. We do not like the idea that seems to prevail that teachers and preachers must always have reduced rates, but when arrangements are made with a hotel for the entertainment of the association upon stipulated terms, we believe that the agreement can reasonably be expected to be carried out. If the rate is fixed, then every teacher who becomes a guest of the hotel should expect to pay according to this rate without the disagreeable protest of an overcharge. If the service is to be first-class and the accommodations good, there should be no ground for criticism on these scores.

If the hotel is to be the headquarters and the home of the body during its stay, then, when the capacity of the hotel is already fully taxed, it should not be let again to any other party to the discomfort of the already-arranged-for guests. We did not care anything about the "banquet" that was announced and didn't materialize; nor do we care anything in particular about any of this; only we think teachers will know hereafter what hotel not to go to if they want courteous treatment. The committee, we know, did its full duty in making what were thought to be very satisfactory arrangements, and the outcome must have been a sore disappointment to its members.

* * *

Notes. The attendance upon the meeting was much larger than usual. We do not know that the number of teachers present from any particular system of schools would indicate in any way the educational pulse of the community, but, somehow, a large attendance from any one section finds us tacitly assenting to the proposition that the schools in that section have a live set of teachers.

The graduates of the State University during their stay in the city held an interesting meeting and were banqueted at the Grand.

The feeling among the educators in all classes seemed to us to be that the time is ripe for Indiana to make a move forward.

STATE DEPARTMENT.

[Many of the letters written from the Department of Public Instruction in answer to questions relative to school matters in different parts of the state are of general interest. We feel that the teachers should be in close touch with this department and we have arranged to have transcripts made of all important letters written and circulars issued and shall present them to our readers each month, under the head, "State Department."—Eds.]

INDIANAPOLIS, IND., January 18, 1897.

Circular DEAR SIR:—There seems to be some misunderstanding about the section
No. 54. of the proposed school legislation bearing on the licensing of teachers.

At present the state does not receive returns from the examination commensurate with the outlay of labor and expense. If the county superintendents of the state could give the time occupied in examining manuscripts to visiting schools constantly while in session, and to laboring "in every practicable way to elevate the standard of teaching, and to improve the condition of the schools of the counties" while not in session, they would render inestimable service to the state through better organization and professional work in the district and small town schools—the schools now needing the most efficient supervision.

The county superintendent, like the city superintendent, should judge his teachers, largely, from their professional work—"School-room Success," etc.—rather than from scholastic attainments, only. To make this possible the proposed change in examinations is urged. It is not possible for the superintendent to pass on the success of a teacher under the present law, which says: "He [the superintendent] shall visit each school of the

county at least once each year, for the purpose of increasing its usefulness, etc." He should have the opportunity of visiting the teachers many times during the year to be able to grade them in "School-room Success" intelligently.

Under the proposed law the examinations will be conducted as at present, by the county superintendent. The manuscripts will be numbered and sent to the State Board of Education for graduation, the names of the applicants not appearing on the papers at all. The reports of the examinations will be sent by the State Board of Education to the county superintendent by numbers, and after the receipt of same, the superintendents will fill in the names of the applicants corresponding to the numbers. By such a plan it will not be possible for any person or school to be shown favoritism. All applicants and schools will stand on their merit. The grade on "School-room Success," determined by the county and city superintendents (county superintendents grading the teachers of the county in this item, and the city superintendents the teachers of the city schools), will count one-half in the examinations. By such a plan, superintendents, both county and city, will have all the leverage over teachers necessary to the best organization of schools, as no teacher of experience will be licensed without the item "School-room Success," which must in all cases be given by the superintendent, as above mentioned. The teacher will be greatly favored in that he will receive a license good anywhere in the state, a very great convenience to hundreds of our teachers, particularly in cities and towns.

Under such a law the county superintendent will be in reality a supervisory officer, and not an office clerk as at present. He will have both the opportunity and pleasure of studying the needs of the schools from a professional standpoint, and time to execute his plans. The superintendents should not be tied down by the examination of manuscripts, which can be done at much less expense and at the same time with more uniformity, by the state. They have higher and more important duties to perform, and should be given the opportunity to perform them.

A law that will benefit the children, the teachers, and the superintendents as this one will, should have the unqualified support of all school men in the state.

I am thoroughly satisfied that the proposed plan of licensing teachers is both fair and practical, and that its adoption will mean a great step forward in school administration.

For a full text of the educational bill see the *Indianapolis Journal* and *Sentinel* of this date.

Yours truly,

D. M. GEETING.

* * *

Teachers' Wages. Your favor of January 26th is before me. In it we find the following:

"The Poneto school building burned this morning between one and four o'clock. We contracted to teach six months and have taught four. We have tried to persuade the trustee to furnish a hall so we can finish the school but he thinks it best to close the school for this year. Will the teachers have to forfeit wages for the remaining two months?"

Replying will say that where a school is broken up because of failure of trustee to furnish another

building, on the destruction of the school house by fire, the teacher may recover, under a contract, wages for the entire term. See section 4501, note 33, school law.

Yours very truly,
D. M. GEETING.

EDUCATIONAL INFORMATION.

Miss Sarah E. Cotton is teaching botany and algebra in the Manual Training School at Indianapolis.

Miss Lell Segur has been elected superintendent at Decatur, Indiana. She has been principal of the high school for a number of years.

At the annual meeting of the Hamilton county Teachers' Association, held January 8th and 9th, Professor Arnold Tompkins of Illinois University lectured before the teachers.

J. W. Hadley has charge of a new township high school recently established at Forest, Ind. The cause of township high schools has received a wonderful impetus in this state this year.

The State Science Teacher's Association of Indiana will hold a meeting in Science Hall of Purdue University at Lafayette, Ind., on February 26-27. This will be a very helpful meeting and the preparation in science for entrance to colleges will receive much attention.

The Indianapolis Normal School, department of Indianapolis Business University, will open its Spring term April 5, 1897, under the principalship of Dr. Eli F. Brown, assisted by a corps of able instructors and lecturers. This term promises to be more successful than ever before.

At Rockport, Indiana, a two story brick addition has been made to one of the buildings and two new teachers employed. The new building has all the modern improvements. A free kindergarten was opened in January with an enrollment of thirty-three. Superintendent F. S. Morgenthau is now serving his third year and is a thorough and efficient school man.

O. L. Galbreth has resigned the superintendency of Laporte county to accept a position with the Swift Packing Co. of Chicago. Charles Zigler, for many years a successful teacher in the schools of the county, has been chosen his successor. Mr. Zigler is held in the highest esteem by his fellow-teachers.

The Delaware county teachers held a very interesting and satisfactory meeting on January 15-16. The speakers for the occasion were Professors Tompkins of Illinois University, and Stephenson of DePauw University, and Wm. Hawley Smith. The teachers were very much pleased with all the exercises.

The Public Occurrent, a society and club newspaper of a high grade, of Fort Wayne, Ind., suspended publication with the issue of January 16. It has been issued weekly by Miss Mercia Hoagland. We are not informed as to the causes for suspension. The merit of *The Occurrent* certainly entitled it to a longer lease of life.

Superintendent Joseph A. Coons of Boone county, with L. A. Fulwider, arranged for the

Teachers' Winter Association at Lebanon January 22-23. Professor Arnold Tompkins of the University of Illinois, and Professor William Lowe Bryan of the University of Indiana, were present both days and gave a series of lectures on educational themes.

The *Psychological Review* of January contains an extended article on "Studies in the Physiology and Psychology of the Telegraphic Language" by Professor William Love Bryan and Superintendent Noble Harter. The article is a very excellent one indeed and furnishes the scientific data from which the more popular pedagogical conclusions contained in the article by Mr. Harter, which we print in this number were drawn.

On the program of the fourteenth annual session of the South Dakota Educational Association we notice the name of N. G. Wark in connection with the subject "The Educational Value of the Study of Literature." Many of our readers will remember Professor Wark as a former teacher in Indiana and a graduate of the class of '92 of the State Normal School. He is now superintendent of the public schools in the city of Watertown, South Dakota.

The questions for graduation from the common school course in Indiana will contain lists upon the following poems:

February; Longfellow's *The Builders*.

March; Bryant's *To a Waterfowl*.

April; Longfellow's *Santa Filomena*.

The questions in physiology will include questions on "Scientific Temperance." Superintendent J. M. Sullins of Tippecanoe county, is chairman of the committee having the preparation of questions in hand.

The last report of the State Superintendent of Indiana appeared promptly. This is the first report, indeed, that we remember to have appeared on time. The volume contains a complete account of the Indiana school system and in some respects is very elaborate. Superintendent Geeting has succeeded in placing in a compact volume a great deal of material that will be of value to school people in this state and elsewhere. Space forbids a larger notice of the report in this issue but the volume can be obtained by sending to the State Department sixteen cents to cover postage, as the superintendent's allowance for postage has already been exhausted.

Professor John M. Coulter of Chicago University, well known to most of our readers as the former president of Indiana University, gave the evening lecture before the Wisconsin State Teachers' Association on "Some Problems in Education." *The Western Teacher* after commenting on the disappointment of the Association at the work of some of its prominent speakers, says:

But the evening lecture by Professor Coulter of Chicago University far more than counterbalanced all the deficiencies in the program; it received unstinted praise from those who heard it. To those who are preparing association programs for next year, our advice is that they engage Professor Coulter, if they can secure him. His address on "Some Problems in Education" is well worth the highest price that any State Association can afford to pay for a lecture. It should be heard by all of them, and will not disappoint the highest expectations.

On Friday evening, January 29, occurred the commencement of the class of January 1897 of the Terre Haute High School. The exercises were of a

high character throughout. The music was furnished by the class of '97 under the direction of Miss Longman and by the High School Mandolin and Guitar club under the direction of Professor Brandenburg. The address to the class was made by President Parsons of the State Normal. The subject of the discourse was "The School and the State." What he said was admirable in every way. It was a clear-cut presentation of the relations of these institutions and contained a great deal of wholesome matter for reflection. The Terre Haute High School under its principal, C. S. Meek, is doing excellent work.

The report of the State Superintendent of Public Instruction of Indiana has just been issued. It contains a great collection of valuable matter for teachers, and its preparation reflects credit on Superintendent Geeting and his able assistant Mr. Cotton. Copies of the volume may be had by forwarding sixteen cents in stamps to the department at Indianapolis. We are requested to correct an error which crept into the report regarding the high school attendance in Marion county. The report on page 11 of our report should be as follows: "The enrollment in commissioned high schools for 1896 in the township is 85, in the towns 38; in non-commissioned high schools in townships 221, in the towns 76." This report does not include the city of Indianapolis.

On Monday, January 25th, there occurred at Hartford, Conn., a very interesting meeting. It was the celebration of Dr. Henry Barnard's eighty-sixth birthday. There were literary exercises and a banquet in recognition of his great work in behalf of the public schools. The speakers announced for the occasion were Dr. Wm. T. Harris, Commissioner of Education, Washington, D. C.; James L. Hughes, Inspector of Schools, Toronto, Canada; Col. Francis W. Parker, Principal Normal School, Chicago, Ill.; Professor Charles K. Adams, President of University of Wisconsin; Rev. Thos. J. Shahan, D. D., Catholic University, Washington, D. C.; Professor William G. Sumner, Yale University; Hon. D. N. Camp, New Britain; Professor P. R. Pynchon, Trinity College, Hartford; Mr. Richard Burton, of the *Hartford Courant*; Rev. C. D. Harttraut, President Theological Seminary, Hartford. The music was furnished by the high school choir, under the leadership of Professor Emerson, and a double quartette from the Yale Glee Club. This certainly was an enjoyable occasion.

Miss Marie Dunlap, one of the teachers in the high school of Lebanon, died January 15th from an overdose of chloroform taken for the relief of a severe case of toothache from which she had been suffering. Miss Dunlap had been teaching at Lebanon about two years, having formerly taught at Princeton, Indiana, where her family lives. She was a woman of much strength in her chosen line of work—history and English, and was highly esteemed by all her friends and associates. At the recent meeting of the State Teachers' Association Miss Dunlap presented an excellent paper on "The Teacher's Preparation." We quote from the memorial adopted by the teachers and students of the Lebanon high school:

Before coming to Lebanon she taught at Princeton, her home, and Salem, in which places she left large circles of friends. She was a graduate of the Princeton high school,

class of 1881, and a graduate of the University of Indiana, class of 1896. In the University she was a brilliant student, a genial companion, and a useful member of society. In college she was a member of the Kappa Kappa Gamma fraternity in which her refining influence and dignified presence were always appreciated. She was a member of the United Presbyterian church, and lived a consistent Christian life. She believed in the principle that "the letter killeth but the spirit maketh alive."

PROFESSIONAL LICENSES FOR STATE NORMAL GRADUATES.

The law granting State Normal graduates certificates has been attacked by some of the colleges and private normals in the state as unjust. In reply to some of these objections President Parsons made the following statements through the *Indianapolis Journal* of January 25. Taking up the charge that "At present, life licenses are issued to graduates of the State Normal, that is, to men and women who, as a rule, have had a little experience as teachers, and who, besides this, have spent in the Normal the short time required for graduation," he said:

It is not true that graduation from the State Normal School entitles any person to a life license. It is not true that graduates from the State Normal School, as a rule, have had a little experience as teachers. As a rule they have had several years of experience, and in a great many cases, from five to ten years. It is not true that a short time only is required for graduation. A period of four years of full forty weeks is required, except in the case of persons entitled to advanced standing by reason of work done in other reputable institutions. No college graduate can graduate from the State Normal School until he has done one full year's strictly professional work.

Indiana is engaged very extensively in the business of educating her youth. She has sixteen million dollars invested in property devoted exclusively to purposes of common school education; she has three-quarters of a million children of school age; fourteen thousand teachers are teaching in her common schools; and this common school work is carried on at an expense of six million dollars per year. No other branch of the public service is comparable with this in importance, extent and expense.

Realizing the imperative necessity for a body of professionally trained teachers for these elementary schools, the state in 1865 enacted a law creating a State Normal School "for the purpose of preparing teachers for teaching in the common schools of Indiana." The State Normal School, therefore, is the state's school, organized, maintained and conducted by the state as a part of the state's common school system, and for a specific and necessary purpose. It is supported wholly by the state; the conditions of admission, the course of study and the entire management of the school in every way and in every detail are prescribed by law, or are determined by a board of trustees appointed under the statute which organized the school.

I will state some of the conditions under which the State Normal School is at work "preparing teachers for teaching in the common schools of Indiana," and the public can then judge whether the granting of life licenses by this institution is well guarded by law:

The statute requires that, to be admitted, persons, if males, must be eighteen years; if females,

sixteen; they must agree to teach in Indiana twice as long as they enjoy the privileges of the school. By an established rule of the trustees, entering students must be graduates of standard colleges maintaining full college courses of not less than four years, graduates of commissioned high schools, hold some grade county license of not less than one year, or pass entrance examinations equivalent to those required for a one year's license.

The course of study is four years long. It is organized to meet the needs of persons who are preparing to teach in the common schools of Indiana. No other persons are admitted to the school; no others would wish to pursue the professional course of the Normal School. It is a course for common school teachers. It is as distinctively professional as the course in a law school or a medical school. Every subject pursued is studied from the teacher's point of view, from the beginning of the course to the end. Besides this, there is a long line of instruction which is in an especial and peculiar sense professional. It includes an extended study of educational psychology, theory of the school, the principle of method in school work and the history and philosophy of education. In addition, the school supports an extensive system of training schools, in which students, before they can graduate, are required to observe and interpret the work done. They must also demonstrate their ability to teach and manage a school by extended practice in these training schools which are under the control and direction of skilled critic teachers.

Further, the law requires that a competent board of school officials shall be appointed every term by the State Board of Education to inspect carefully the work of the school, and report thereon. The school is under the direction of the state at every point and in every way.

At the end of four years' study, when the student has passed all his examinations, and made his four years' credits, and shown his capacity as a teacher, it would seem as if he ought to be allowed to graduate. But not so. By a rule of the board of trustees, he is required to submit to another test. He must take an examination under a county superintendent and secure a valid two years' county license before he can graduate. The student now receives, under the law, a certificate of graduation, not a life license. This certificate of graduation has no legal value whatever. It relieves no graduate from county examinations. Under the law again, the graduate must teach two years after graduating before he can receive the diploma. No matter if he entered the Normal School from the best university in the land he must present satisfactory testimonials from competent school officials to the effect that, since graduating, he has taught and managed successfully for a period of not less than two years.

When all these conditions have been fully met, the diploma is granted, and is equivalent to life license to teach in Indiana, and I am glad to be able to say that it is recognized by many states of the union.

This hardly seems "a short cut to life license by way of the State Normal School." I know no other state that imposes such severe conditions, and of no other class in Indiana is so much exacted.

If any other institution in the state will submit to state control and inspection as fully as the State Normal School is required by law to do, then it would be entitled to the same privileges.

The State Board of Education is authorized to issue life licenses to persons of given experience and who pass certain examinations. The examinations last two days. The average of all grades made need not exceed seventy-five per cent., and in any subject the applicant may fall as low as sixty per cent. With the single exception of the science of education, every subject on which the applicant for a life license is examined is to be found in the ordinary college course. In the case of the competent college graduate who has taught the required time and wishes a life license, would not this examination be in reality a "short cut to a life license?"

Whether the long course of professional training given by the State Normal School, with the required period of successful experience after graduation, should entitle to a life license, may fairly be debated; but any proposition to ignore professional training as essential to the work of the public school teacher should be condemned. It would be to reverse the course of the world's educational progress during the last half century.

INDIANA STATE BOARD QUESTIONS FOR JANUARY, WITH DISCUSSIONS.

SCIENCE OF EDUCATION.

(Any five.)

1. According to the Herbartian theory, what should determine the selection of the subject-matter of any study?
2. What is meant by a "lesson unity?"
3. Explain briefly each of the five formal steps in the process of teaching a new topic, namely, preparation, presentation, association and comparison, generalization, practical application.
4. Using some topic of your own selection, show how it would be taught according to this plan.
5. What reasons can be given for stating the aim of a recitation at first?
6. What is the difference between a percept and a concept?
7. Does the true method of teaching a percept differ from that of teaching a concept?

1. The essence of moral culture in generative form should constitute the chief mental food of young people. Accordingly, history is placed first, natural science second, and the so-called formal studies third.

2. Concentration, or the establishment of relations in facts taught.

3. Preparation is getting the mind in the proper attitude for the consideration of the new topic; presentation is placing the new topic in proper relation to the pupil's mind; association and comparison involve the process of relating the new presentation to the past experience; generalization is the conclusion or inference drawn from associating and comparing; the practical application is establishing the new percept by relating it largely to one's past experience.

4. See page 35 in this issue.

5. The same reason exactly for telling the person whom you are going to send to a certain place where you wish him to go. Aimless conscious activity is not of a very high grade. The highest type of consciousness is purposive.

6. I suppose a percept might be called the product of a mental act upon some particular presentation standing for an object present, while a con-

cept might be thought of as the product of the mind upon more than one presentation standing for objects recognized as the manifestation of the same activity or principle. The same process is involved in both activities.

7. There is no difference except in point of view.

READING.

1. Describe the plan of teaching primary reading, as presented in the prefaces to the Indiana First, Second and Third Readers. 16.
2. When should a child begin the study of literary interpretation? What is the first step in literary interpretation? 10.
3. What do you understand by the terms, *theme, embodiment and purpose*? 10.
4. Mention three qualities which serve as a test for good literature. 10.
5. "Fiction often states a higher truth than a mere statement of fact." "A character in fiction is a universal individual, or an individual who exemplifies some universal aspect of humanity." Cite some fable or short story that shows that the above is true. 10.
6. Read a selection to the County Superintendent 50.

1. The leading principle kept in mind is that in primary reading the learner passes from "idea or thought to the word or sentence expressing it." To this end the *word and sentence methods* are used in judicious combination. New words are to be learned from their analogy to the words already known. Early in the work, simple lessons with literary elements prominent are introduced, and the number of these selections gradually increase. Oral expression is always to follow a full discussion of the lesson and never precede.

2. It is impossible to name a point at which the study of literary interpretation should begin. It is pretty generally agreed that the fourth and fifth, and perhaps the third readers should be made up chiefly of literary selections. While the second part of the question is indefinite it seems that the first necessity on the part of the reader would be the clear construction of the mental imagery employed.

3. *Theme* names the important thought or feeling, or point in which all the details of the selection focus; *embodiment*, the imagery employed to present this theme; *purpose*, the result aimed at by the writer. This latter is measured in terms of the effect produced upon the reader.

1. (1) A valuable content.
- (2) An interesting and beautiful embodiment.
- (3) Elegant language.

5. In Dickens' *Christmas Carol* we find in Scrooge an expression of selfishness. This trait of human nature is presented without the distracting elements common in everyday life and its possessor may be said to "exemplify a universal aspect of humanity."

GRAMMAR.

1. Distinguish between the copula and predicate of a sentence. Illustrate.
2. State how each word is used in the following: "I can not paint what then I was."
3. Illustrate in a sentence four relations of the pronoun.
4. Illustrate the difference between the use of the preposition and the conjunction. Explain.
5. Use the words "will" and "shall" to express futurity, determination.
6. Suggest ways and means of correcting faulty English of pupils in recitation and conversation.

1. The copula is that part of the sentence which expresses the thought relation; e. g., *Snow is white*. The predicate is that part of the sentence which expresses the thought predicate; e. g., *Snow is white* (see Whitney's "Essentials of English Grammar," par. 353.)

2. The word, "I," is the subject of the principal clause. The verb, "can paint," is used as the principal part of the predicate of the principal clause, and it also expresses the principal part of the thought relation. The word, "not," is an adverb, modifying the verb, "can paint." The word, "what," is a compound relative pronoun and has three uses: it is the direct objective modifier of the verb, "can paint," it is the predicate of the subordinate clause, it expresses the relation between the principal and subordinate thoughts. The word, "I," is the subject of the subordinate clause. The word, "was," is the principal part of the copula of the subordinate clause, and it is modified by the adverb, "then."

3. I saw *him* in his own home and he did not know that it was *I*.

4. The preposition shows the relation between ideas of unequal rank; e. g., He walked *in* the garden. The conjunction shows the relation (1) between ideas of equal rank; e. g., Five *and* four are nine; (2) between thoughts of equal rank; e. g., This may be right *but* it is not expedient; (3) between thoughts of unequal rank; e. g., This is my book *for* I bought it.

5. Simple futurity.

- (1) I shall go.
- (2) He will go.

Futurity accompanied by determination.

- (1) I will go.
- (2) He shall go.

6. With young pupils, give the correct expressions for their incorrect expressions. Have the children repeat the correct expressions many times in many ways.

With older pupils, in addition to the above, show them why their expressions are incorrect.

With all ages of pupils, try to interest them in using good English. Get them to noticing their language and striving to correct their own errors. (See Wisely's "Language for the Grades.")

GEOGRAPHY.

(Select five.)

1. State the general laws of relief.
2. What are tides? How caused? How affected by the physical configuration of the land?
3. What waters does the Erie Canal connect? What cities at its extremities? Of what commercial advantage is this canal?
4. What geographical conditions have tended to develop the free institutions of England and Switzerland?
5. Wheat thrives in America as high as in 55° north latitude, in Europe as high as 60° north. Why does it thrive farther north in Europe than in America?
6. What country receives most of the agricultural exports of the United States? What reason can you give why this is so?

1. The question is too vague to be answered with any degree of accuracy. Perhaps the laws of continental structure as given by Guyot are meant. (See Guyot's Physical Geography.) Scientific geographers of the present day attach very little importance to such analogies, and the idea of any unity of continental structure is regarded by many as a delusion. The primary highland or "backbone" theory fits only the Americas. The most general law of relief is that massive elevations like continents and plateaus are due to deformation of the earth crust, and all the minor features, as mountains, valleys, etc., are due to subaerial erosion. Drainage controls relief much more than present relief controls drainage. No study which does not look behind present conditions can ex-

surpassed by any statesman of his time for liberal views on education. He was a true humanitarian, and fearlessly fought for the oppressed—whether South Americans, Indians or Negroes. Personally he was disposed to be cold and distant, and never easily made friends. All in all, he was one of the most incorruptible and liberal statesmen of America.

2. Rather unfriendly in the main, —because (1) We have fought two wars with England—the Revolutionary war and the war of 1812, and we do not forget these easily; (2) Because the most aristocratic class of England sympathized with the South during our late Civil War; (3) Because teachers have taught the history of our country frequently with no point of view except that of the American Colonist, and hence, have made the children prejudiced; (4) Authors of United States Histories for schools have frequently written the histories from the same view, presenting only half of the truth. (5) Considerable ignorance of Americans as to the progress of England toward freedom, and sympathy with democratic ideas during the nineteenth century.

3. The immediate cause was the impressment of American citizens into the service of the English navy on the ground that they still owed allegiance to England. It was not mentioned in the treaty which closed the war, but it was tacitly admitted by England that the English position on the point was wrong.

1. (a) The most fundamental question was the relative power of the central and state authority.
- (b) Questions relative to the closing up the reconstruction policy of the South, and withdrawing the Federal troops from the Southern states.
- (c) Questions concerning improving the West, especially railroad construction.
- (d) Questions as to whether the general government should resume specie payments for its obligations.

SCIENTIFIC TEMPERANCE.

(Select five.)

1. What are some of the commercial uses of alcohol? Is there anything that might be substituted for it? If so, what is it?
2. How are the products which result from the oxidation of the tissues modified if alcohol is taken into the body?
3. What is the cause of natural thirst?
4. Why is circulation quickened by a drink of alcohol?
5. What is the effect which alcohol has upon the red corpuscles? This in turn produces what effect?
6. What are some of the effects produced upon the system by the use of tea and coffee?
7. Why does smoking have a tendency to weaken the lungs?

1. Alcohol is used by the manufacturers of varnishes, India rubber, candles, collodion and thermometers. It is burned in spirit lamps and is used to preserve specimens. It is claimed that there are substitutes for it, such as the various solvents and ethers.

2. Alcohol hardens "preserves" the refuse matter, and this refuse, which in the ordinary course of healthy conditions would be cast out, is largely retained.

3. Natural thirst is caused by loss of water carried from the system in the various excretions.

4. The circulation is quickened by a drink of alcohol because the alcohol partially paralyzes the nerves controlling the blood vessels and these ves-

sels expand. The expansion of the blood vessels allows the blood to flow through them more easily and the heart, having some of its restraint removed, runs away, so to speak.

5. It robs them of part of their oxygen, thus retarding oxidation. If causes the red corpuscles to cling together, thus tending to impede their progress through the capillaries and thereby tending to interfere with their nourishment of the tissues.

6. Dr. Kerr, in his book on "Inebriety," page 117, speaks as follows concerning the excessive use of these drinks: "The inordinate drinking of tea or coffee may induce functional disturbance of the liver, stomach, and heart, and these perversions of function may generate a morbid crave for narcotic intoxication. By its lowering effect on the nervous system, tea or coffee excess may deteriorate nerve function and eventually nerve tissue, and thus impair mental capacity."

7. Because of the pathological effect upon the tissue itself, and second, because of the depressing effect it has upon respiration.

PHYSIOLOGY.

(Any five.)

1. What purposes should constantly animate the teacher of physiology? What methods are most likely to insure the realization of these purposes?
2. Draw a section of a bone. Label and describe the parts.
3. In case of a broken bone, what would you do till the physician arrives?
4. Select any five bones in the body which are used as levers, and show how each one is used.
5. Explain the connection between blood capillaries, lymph capillaries, and tissue cells.
6. Explain in full how the oxygen of the air reaches the tissues.
7. What are the parts of a nerve fibre? What is the essential part?
8. What means would you resort to in the effort to restore one who has fainted?

1. The main purpose in teaching physiology should be to have the student receive that benefit from this subject which it can give by virtue of its being a natural science; that is, the scientific procedure of the mind in acquiring truth and the mental discipline incident to genuine scientific study. Incidentally it ought to give the student much valuable information of a physiological-anatomical nature, much of which may be necessary in understanding hygienic laws.

The best method to accomplish the main purpose is to make as much of the instruction as possible upon actual materials or experiments, and so enable the student to make his own observations and arrive at conclusions verified by himself.

3. In case of a broken bone, the best thing to do till the surgeon arrives is to place the member containing the fracture in as comfortable a position as possible to avoid further tearing of muscles or vessels, and then to attempt by properly pulling upon the bone, when this is possible, to induce the broken ends to meet again in their proper position, before the swelling and inflammation set in, which often add to the difficulty of "setting" a bone later.

4. Most of the moveable bones act as levers that have the fulcrum (fixed point) at one end, the weight to be moved at the other, and the lifting power between the two.

Bones used in this way as levers, are the radius (with its fulcrum at elbow, the weight at the hand, and the power,—the big biceps muscle,—inserted between the two, about an inch or more from the inner edge of elbow), the *tibia*, the *femur*, the *humerus*. The bones of the ankle and foot form together a lever of a different order. In this lever the fulcrum (standing on toes) is on the ball of the foot, the power is applied on the heel-bone, the *calcaneum*, where the tendon Achilles is inserted and the weight of the body is between the two resting on the *astragalus*.

5. There is no direct connection between blood capillaries and lymph capillaries. The liquid part of the blood soaks through the walls of the blood capillaries and then bathes freely the tissues. In among the tissues it is collected in crevices between tissue cells or in funnel-shaped lymph capillaries, both of which avenues finally lead to larger and larger lymph vessels until by means of the thoracic duct the lymph is again returned to the left subclavian vein.

6. The oxygen of the air reaches the tissues in the following steps:

- (a) By movements of the chest the air is drawn into the alveoli of the lungs.
- (b) Here the oxygen (like all gases under similar circumstances) is absorbed by the liquid plasma of the blood.
- (c) The haemoglobin of the red corpuscles combines with the oxygen passed into the plasma, until all the haemoglobin is thus used up and the plasma has dissolved all it can hold.
- (d) It is then carried by the blood stream to the capillaries among the tissues.
- (e) Here the oxygen in the plasma passes into lymph surrounding the tissues, from which lymph the tissues themselves finally secure the oxygen.
- (f) As soon as the plasma of the blood has begun to give up most of its absorbed oxygen, the haemoglobin in the red corpuscles gives its stored oxygen to the plasma, and by it is passed to the lymph, from which the tissue cells at last secure it.

7. The parts of a nerve fiber are: The primitive sheath, the medullary coat, and the axis cylinder. The important part is the axis cylinder.

8. The most desirable thing to do to restore one who has fainted, is to induce proper respiration. The loosening of the clothing, if necessary, the access of fresh air and possibly a dash of cold water in the face, to start breathing, will usually suffice to restore consciousness.

ARITHMETIC.

1. Compare and contrast addition and multiplication and make two problems in each suitable for first year pupils.
2. Show how the second year number work differs from that of the first year.
3. If the fore-wheels of a wagon be four feet in diameter and the hind wheels five feet, how many more revolutions will the former make than the latter in going a mile?
4. Explain as to class taking the work for the first time, $6230 - 2784$.
5. What is the side of a cube which contains as many cubic feet as a box 8 ft. 3 in. long, 3 ft. wide and 2 ft. 7 in. deep.
6. The capacity of a cubical cistern is 71,088 cu. in.; how many sq. ft. in the bottom of it? What is the length of the diagonal of one side?

7. Discuss the fundamental principles of arithmetic in their relations to common fractions. To decimal fractions.
8. When may things be compared? How? Illustrate the first method. The second.

1. Addition and Multiplication are alike, in that they are processes by which the sums of numbers may be found. In Addition, however, the numbers need not be the same, while in Multiplication, some number must be taken a number of times; or, from a little different standpoint, the addends must all be the same. In Addition the mind thinks of the required result as obtained by the combined value of two or more numbers, whether they have the same numerical value or different. In Multiplication the mind thinks of the required result as obtained by the combined value of the same number taken a certain number of times. Since the first year's work deals with numbers and their relations from 1 to 10 inclusive, problems for the first year in these processes must be such as these: 1. Mary has four buttons on her cloak and five on her dress; how many buttons has Mary on her cloak and dress? 2. Two little girls have three cards each; how many cards have they together.

2. The second year number work deals with more numbers and with larger numbers than does the first year. It includes the numbers taught in the first year in their relations to the numbers taught in the second year, while of course the number work of the first year can only involve the relations between the numbers taught in that year. During the second year pupils are better able to deal with fractional relations than in the first; they can also be brought to see the abstract idea in numbers a little better and numbers are dealt with a little more with this idea in view.

3. $4 \times 3.1416 =$ no. feet the fore wheel travels in one revolution; or 12.5664 feet.

$5 \times 3.1416 =$ no. feet the hind wheel travels in one revolution; or 15.708 feet.

$5280 \div 12.5664 =$ no. of revolutions fore wheel makes in traveling one mile.

$5280 \div 15.708 =$ no. of revolutions hind wheel makes in traveling one mile.

$5280 \div 12.5664 = 422.21$

$5280 \div 15.708 = 336.13$

Difference $= 76.08$, the number of revolutions the fore wheel makes more than the hind wheel in going 1 mile.

4. In subtracting 2784 from 6230, 4 units can not be subtracted from 0 units, but we can make one of the 3 tens into ten units, then 4 units from 10 units leaves as a remainder 6 units. Since we have made units of one of the three tens, there are 2 tens left. 8 tens can not be subtracted from 2 tens but we can change one of the 2 hundreds into 10 tens and this added to the 2 tens gives 12 tens, from which if we subtract 8 tens, 4 tens will remain. Since we have made one of the 2 hundreds into tens there is 1 hundred left. 7 hundreds can not be subtracted from 1 hundred, but we can change one of the 6 thousands to 10 hundreds and these added to the 1 hundred gives 11 hundreds. 7 hundreds subtracted from 11 hundreds leaves a remainder of 4 hundreds. Since we made 10 hundreds from one of the 6 thousands there remain 5 thousands. 2 thousands subtracted from 5 thousands leaves a remainder of 3 thousands. Therefore we have as a remainder 3 thousands, 4 hundreds, 4 tens and 6 units, or 3446.

5. The dimensions of the box in inches are—(9)

inches long, 36 inches wide and 31 inches deep. The product of the three dimensions is 110484, which is the number of cubic inches in the box. The cube root of 110484=48—. Then one side of the required cube is 48— inches, or 4— feet.

6. If the capacity of a cubical cistern is 74088 cubic inches, one side of it is the cube root of 74088 or 42. Then its bottom has in it 42×42 square inches, or 1764 square inches or $12\frac{1}{2}$ square feet.

The length of the diagonal of one side = $42\sqrt{2}$ or 59.388.

∴ the length of the diagonal is 59.388 inches or 4 feet, 11.388 inches.

7. If, by the "Fundamental Principles of Arithmetic" are meant the principles of addition, multiplication, subtraction and division, we might say that only like fractions can be added or subtracted; i. e., they must have the same denominator or a common name. Likewise in multiplication and division; the multiplier bears the same relation to 1 that the product does to the multiplicand; and the quotient bears the same relation to the dividend that 1 bears to the divisor. Then, of course, if the multiplier is a fraction the product will be less than the multiplicand, and if the divisor is less than 1, then the quotient must be greater than the dividend. These same principles hold equally well for decimal fractions, and the relations are exactly the same.

8. It would seem from the question that the person making it had in mind that there are two ways of comparing things. If we should take this view we would say that any two things may be compared; for we can include under comparison, contrast also, and then any two objects may have their likenesses and differences spoken of. But, under a little closer scrutiny of the question with relation to number, we would say that only like things can be compared. For example, two lines may be compared as to length; i. e., they may have a common measure by which we may find their relations, or they may have no common measure of a definite length; i. e., the common measure is something infinitely short and therefore the relation is theoretical.

BOOK REVIEWS.

ELEMENTARY METEOROLOGY. By William Morris Davis. Boston: Ginn & Co. XI. 355 pages. Price \$2.50.
ELEMENTARY METEOROLOGY for High Schools and Colleges. By Frank Waldo. Cincinnati: American Book Co. 378 pages. Price \$1.50.

The Report of the Conference on Geography to the Committee of Ten recommends meteorology, "a specialized study of atmospheric phenomena," as a proper link in the chain of geographic studies, "to be offered by schools prepared to do so properly, as an elective in the later high school years." Several difficulties seem to lie in the way of carrying out this recommendation: first, the scarcity of competent teachers; second, the lack of time and apparatus, and third, the want of a suitable text-book. Two books are before us which may claim to supply the last deficiency. Professor Davis' book is characterized by fullness of statement and discussion. The author seems to have spared neither labor nor type in the effort to supply in print those explanations and discussions which the difficulty of the subject demands, and a good teacher would give orally, and to anticipate at

every point the wants of the student and of the teacher not specially prepared for the work. In this attempt the book is successful beyond almost all other scientific text-books with which we are acquainted. In its field it occupies the same place which Martin's "Human Body" does in physiology, and that is saying a great deal. The student who wishes to get to the bottom of the great problems of modern meteorology so far as that is possible, and to learn how very far we still are from the bottom of many of them, may open his Davis with assurance that it will do for him all that any text-book can do. Whatever is known is stated clearly and without reserve up to the verge of the latest discovery. There is no suppression of difficulties, no slurring of hard points by half-statements in the interests of making an easy book. The very complex, scientific problems which abound in this subject are frankly presented as such; they are turned over and over and looked at from every possible side and are returned to again and again as new facts are brought out which throw light upon them. There is not a dogmatic sentence in the book; its whole atmosphere is that of full and free discussion. It comes very near to being an ideal scientific text-book. Whether it is a suitable text-book for high schools is another question. It is a large book of 350 pages, each containing about 500 words and equivalent to nearly 500 pages of ordinary text-book size. To read that amount of easy reading is no holiday task, and the picture of an attack upon it made by an ordinary high school class, whose time is divided between that and three or four other subjects is not without its humorous aspect. Again, the thorough-going nature of the discussion leads into very deep water from which only a vigorous and undaunted mind can hope to escape without asphyxiation. We have had the pleasure of conducting a class whose average grade was about that of good high school graduates, through a large part of this book (the term was not long enough to finish it). The result was satisfactory, the stronger students certainly did touch bottom in a great many places and came out with clear breath; and the weakest got an impression they will never forget of what a scientific problem is, and of the method by which it must be solved, if at all. We have yet to make the acquaintance of the high school which we would advise to try the same experiment.

Professor Waldo seems to have followed a plan in some respects the reverse of that of Professor Davis. The one book is as remarkable for its condensation as the other for its expansion. It is not that it omits details or introduces fewer topics; the contrary is the fact. It would be easy to find in it fifty topics discussed and illustrated which are absent or only incidentally alluded to in Professor Davis' book. It is a concentrated encyclopedia of meteorological observations. A little of everything and that little the essence seems to be the rule. To execute such a plan three things were necessary; the liberal use of maps and charts which show upon one page what would require many pages of text, conciseness of verbal statement and a certain dogmatism of tone. The author has accomplished his purpose with great skill. He is a master of condensed statement. Such sentences as the following abound: "The average extreme oscillation or amplitude of the temperature during the year, increases with the latitude and towards

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No.

A DAY'S RAMBLE IN THE LAND OF IRVING.

WALTER W. STORMS.

THERE are points along the range of hills lying north of the "Palisades" and skirting the west shore of the Hudson River, from which the eye may take in a scene rarely surpassed in historic and romantic interest by any other in our country. To stand upon one of these elevations on a fresh summer morning as it was my good fortune to do not many Junes ago, and to call up memories awakened by the scene, is little short of an inspiration.

A short drive across the hills of Rockland County had brought our party to the crest

of the ridge at Nyack-on-the-Hudson, overlooking the expansion in the river which the early settlers called Tappan Zee. Miles of the lordly stream lie in sight, now animated with crafts of every sort, from cat-boat to full rigged schooner and brig, and from the busy blustering tug to the palatial steamer.

On a certain day early in this century, an observer at this point might have seen a strange looking vessel at whose helm stood Robert Fulton—advance agent of the endless panorama that now passes from day to day. This odd craft had neither oar nor

sail, and yet surely though slowly plowed her way against the current. Two centuries earlier still, the Dutchman's "Half Moon," a pioneer on the grandest river in the world, had tacked her zig-zag course up among the highlands, arousing combined fear and admiration among the natives along the shore.

Another turn of the kaleidoscope shows us the "Vulture"—fit name—carrying Benedict Arnold away from his treason to Clinton, and to infamy.

Across the river, ranges of hills rise by gentle undulations toward the east, and among

them, along the eastern shore, we could locate numerous towns and villages, on Yonkers to Sing Sing.

Crossing the river by ferry, we landed at Tarrytown, named "we are told, in former days, by the good house-wives of the adjacent country, from the inveterate propensity of their husbands to linger about the village tavern on market days." Irving has thrown the halo of romance over all this region, and though modern life has largely obliterated traces of quaintness that must have characterized the old Dutch burg, still we gazed



KATRINA VAN TASSEL'S HOME.

curiously at the few surviving, old-fashioned, stone houses seen here and there, carefully whitewashed, with small, deep-set windows, with doors hung in two sections—an upper and a lower, and with the rear roofs sloping almost to the ground. The streets of the original town wind now this way, now that, as if following the original line of the early roadway.



THE OLD DUTCH CHURCH.

All else appears modern enough, but it will be yet many a year before the romantic charm will be gone from these hills and vales, once the fancied retreat of wicked witches and uncanny goblins.

We have all lingered over the delightful "sketches," perennial springs whose humor never runs dry; we know Ichabod Crane so well that we are almost on speaking terms with him; we remember his marvelous learning and the wonder that followed him as an itinerant pedagogue "boarding round." We have smiled over that description of the singing school with Ichabod's squeaky voice that could be heard half a mile away. We know the tale of his love, his dream of wealth at the home of his sweetheart, Katrina Van Tassel, his burly rival, the courtship, and the famous midnight ride when Gunpowder and the schoolmaster were pursued by the headless horseman. We have even joined with the denizens of the neighbor-

hood in conjuring up stories to explain the mysterious disappearance. But we have scarcely believed that we might enjoy the rare pleasure of strolling along these same roads, seeing the bridge where the pedagogue dropped out of the story, visiting the church where the singing schools were held, and wandering about the burying ground where the rustics were wont to gather on Sabbath, before and after meeting.

After leaving the pavements of Tarrytown, we came upon a suburban road that winds among the most picturesque hills. "A drowsy, dreamy influence," as Irving says, pervades "this sequestered glen" on a warm June day, and made us guess, as we learned by inquiry, that we had entered Sleepy Hollow. A small brook, "with just murmur enough to lull one to repose," rippled along by the road-side, presently widening into a pond skirted with ancient weeping-wilows. The old mill and the bridge are near by, and just beyond stands the old Dutch church. The stone walls are still in good preservation, though over the door a stone set in the solid masonry of the wall bears the inscription—

"Erected by Frederick Phillips and Catharine Van Cortland, his wife, 1699."

Thirty-three years, then, before Washington was born, sixty years before French possessions in the St. Lawrence and the Ohio valleys yielded to the English, seventy-seven years before the colonies renounced their allegiance to British royalty, did the Dutch denizens of Sleepy Hollow, worship in the old stone church; very much, doubtless, as they did at the time of which Irving writes, and very much as they do to-day.

Upon three sides of the sacred structure sleep the fore-fathers.

"Where heaves the turf in many a mouldering heap,"

though closely about the church the rounded mounds have long ago fallen back to level earth, and large trees are aging where once were open graves. Nearly all the older headstones are made from the native red sand-

stone, many of them being so weather-worn and moss-covered that the inscriptions are scarcely traceable. Those which we could make out were quaint enough, and kept us interested for a long time.

"John Yurks, died 1792, aged 74 years.

Reader, behold as you pass by,
As you are now, so once was I;
As I am now, so you shall be,
Prepare for death and follow me."

"John Van Wart, died 1811.

Afflictions sore long time I bore,
Physicians were in vain,
Till death did seize and God did please
To ease me of my pain."

"Lichaem Zohannes, Geboren 1735, Overleeden 1775."

It seems to have been as true then as now that only the good found rest in our cemeteries, for the epitaphs we saw all expressed sentiments of the deepest piety.

Irving himself has lain here since 1859, his burial place being marked by a modest slab of white marble.

Just north of Sleepy Hollow stands a simple monument by the roadside, showing the spot where the English spy, Major Andre, was captured by three American patriots. Almost opposite, on the west shore, is the place where he and Arnold had met, to negotiate the treason; while a little farther to the south, but also on the west side of the river is the old Dutch village of Tappan where Andre was taken for trial and execu-



SUNNYSIDE.

"Here lyes the body of Siber Acker. Was born 1668, who departed this life July the 26, 1771."

"Wm. Van Wod.

Life's uncertain, death is sure,
Sin's the wound, and Christ's the cure."

"Let man but read these sculptured tombstones
o'er,
Here fix his thoughts and then be vain no more."

tion. The stone house which Washington occupied as headquarters at that time, is still standing, and the place of execution is indicated by a low but massive granite stone placed there a few years ago by the late Cyrus W. Field of New York.

Mr. Field maintained that Andre was a martyr to his cause, dying nobly in the

service of his country, and that his death, made more pathetic by the escape of the guilty Arnold, justified the honor of a memorial. But there were those who begged to differ from Mr. Field, and who expressed their sentiments by blowing up the monument shortly after its erection.

Mr. Field promptly restored it, and it was as promptly demolished; but with characteristic persistence the great promoter of the first Atlantic cable tried again, and the third monument is, I believe, still standing. Thus are the historic and the romantic closely blended in this picturesque region.

Some two or three miles south of Tarrytown, nestling among the dense foliage of a sheltered cove, stands Sunnyside. Irving had spent a few years in Spain, as the American minister to that country, but in 1846 he came home to retire, for the rest of his life, to this cozy retreat.

The appearance of the house is sufficiently picturesque in itself—rustic in its simplicity, mantled with ivy, surrounded by a lawn and walks that reach to the water's edge—but it is the inseparable association with the name of Irving that renders it doubly interesting. Then, there is another charm still, for Sunnyside is verily the former home of old Baltus Van Tassel.

It was here that the amorous Ichabod and his borrowed steed, Gunpowder, drew rein on a certain autumnal evening long ago, in response to an invitation to attend a "quilting frolic." This home had been the scene of his dream for months past as he "pictured to himself every roasting pig running about with a pudding in his belly and an apple in his mouth; the pigeons snugly put to bed in a comfortable pie, and tucked in with a coverlet of crust; the geese swimming in their own gravy;" and all this wealth of bounty to be dis-

pensed "by the delicate little dimpled hand of Katrina Van Tassel."

It was from this very place, at the "witching time of night, that Ichabod, heavy-hearted and crestfallen, pursued his travel homewards" among the hills toward Sleepy Hollow. It was this Van Tassel homestead, around which Irving has woven this matchless legend, that he purchased and converted into Sunnyside. It was hither, during the last twelve years of his life, that his charming hospitality drew an ever-widening circle of admiring and affectionate friends. And here our day's ramble must end.

As we turned homeward some one of the party recalled the lines of Lowell:

What! Irving? Thrice welcome, warm heart and fine brain,

You bring back the happiest spirit from Spain,
And the gravest sweet humor that ever were there
Since Cervantes met death in his gentle despair.

* * * * *

But allow me to speak what I honestly feel,—
To a true poet-heart add the fun of Dick Steele,
Throw in all of Addison, minus the chill,
With the whole of that partnership's stock and good-will,

Mix well, and while stirring, hum o'er as a spell,
The 'fine old English Gentleman,' simmer it well,
Sweeten just to your own private liking, then strain,
That only the finest and clearest remain,
Let it stand out of doors till a soul it receives
From the warm lazy sun loitering down through green leaves.

And you'll find a choice nature, not wholly deserving

A name either English or Yankee—just Irving.

TERRE HAUTE, IND



THE OLD MILL.

PEDAGOGICAL SIGNIFICANCE OF ATTENTION.

ELIZABETH E. PERRY.

THE subject of attention is of prime importance to the teacher. There can be no teaching without the attention of the pupils. No doubt every teacher realizes this, but perhaps often in such a vague way that she does not make sufficient effort to gain it, or does not know how to gain it, and so her work fails in its purpose; *i. e.*, to develop in the pupils the power of concentration which is absolutely necessary to successful work.

A psychological study of attention should show the teacher what attention is, its value, the conditions which make it possible, the relative advantages of the different kinds, and how to secure attention. This last is most important.

Attention is a readiness of the ego to appropriate new concepts whose entrance into consciousness is expected. It is an alertness of the mind in some particular direction. Without this alertness and readiness to receive there can be no gain of knowledge. The mind will be like a door closed against it; new concepts cannot enter. It is an act of attention that opens the door and lets or invites in the new-comers. In teaching it is necessary to have the child's mind active and ready to receive the new thing the teacher wishes to teach him. He may be attentive to other things but that is not the point; it is to secure his attention upon this one thing at this time.

There are certain conditions which make it possible or impossible for the child to give this attention. These should be noticed. First, there may be in the schoolroom things which attract the attention from the lesson to themselves, as pictures, objects on the table, writing on the board unrelated to the lesson, noises in the room or outside, etc. Such hindrances to the attention should be removed, and all the arrangements in the room should be cond

Second, the nerves of the child must be in good condition if perfect attention is given. The teacher should see that they are not over-taxed by too long continued application. Hence the importance of relaxation periods and recesses. Third, the subject must be so presented that clear vivid concepts are produced and so attention is aroused, and then the work must proceed by easy steps to avoid confusion of concepts and so a wearying of attention.

Understanding the conditions favorable to attention, the next question is how to get it, and what kinds to work for. There are two general kinds of attention,—involuntary, that attention which is given spontaneously with no effort of the will, and voluntary attention, in which the individual chooses to attend. As voluntary attention necessitates a greater expenditure of energy, because of the willing to attend and the holding of one's self to the object of study, and because it probably does not give as good results as where the attention arises from an interest in the subject itself, we should prefer to secure, if possible, involuntary attention. There are two kinds of involuntary attention, primitive and apperceiving. Primitive attention arises from something in the object which compels the attention. It may be its magnitude, its brightness, the feeling it produces, or the suddenness of its appearance. Any of these qualities may arouse a curiosity to know about the object. As the objects studied in school do not generally possess these characteristics, the teacher cannot make an extended use of this kind of attention, except as it is found inherent in all children as a general curiosity to know.

Apperceiving attention has a wider significance. Indeed, it may be classed as the ~~most~~ kind of attention. Its source is in
 A child may, because of

primitive attention, gain some concepts from an object. These concepts blend with old concepts and he begins to understand the object. This understanding produces a pleasant feeling which may make him again attend to the object. This attention is apperceiving attention. Once started it may widen and deepen until a permanent interest in the subject is secured. It is the kind of attention which leads to successful work and important discovery in any subject. To secure this attention, the teacher should have an interest in the subject herself, present it with earnestness, make it as attractive as consistent, and, above all, be sure the work is perfectly understood, step by step, by each child. Further than this the teacher can do little. Probably few pupils will develop this attention to a subject for its own sake, but as a result of careful, earnest work on the part of the teacher, some may. Much of the character of the pupils can be learned from observing what things it is to which they give involuntary attention. The knowledge of their tendencies thus gained may be used to advantage in arranging their school work.

We come to the study of voluntary attention, which has the closest connection with our work of teaching. As we have already intimated, very few people ever attend to a thing for its own sake, but because they expect to gain something through it. The lawyer studies law, assiduously, not because of any special interest in law itself, but on account of the money or fame he expects to get out of it. So, in school work, we can expect very few children to attend to lessons because they have an interest in the lessons themselves. There must be some other motive to compel their attention. The teacher knows she must have attention, so her work is to arouse in the child the best motive for securing it. Probably the lowest motive the child can have for giving attention is the fear of suffering. He is told that if he is not attentive he will be punished in some way, and so, to avoid

this punishment, he gives his attention to the work in hand. While this is not a desirable motive, the teacher should make use of it when necessary.

The next higher motive the child may work from is the hope of reward. He is told that attention to his lessons will be rewarded in some way, praised, approved, etc., and so he works with these ends in view. A teacher should use this motive with care. It is a bad thing to give the child the habit of being rewarded for doing that which is merely his duty. I should prefer to have the child work from the first motive indicated rather than the second. Another motive which may be used is the sympathy of the child. He may be led to work for his mother's sake, his teacher's sake, etc. This motive is good and may be used advantageously. The three motives discussed may be called present motives, as they apply only to the immediate circumstances of the child. The following motives, may be called future motives, as they are farther reaching and extend over a greater space in time.

Ambition is a motive which secures attention. The child may be led to attend to school work in order that he may make progress, in order that he may have knowledge when he comes to be a man, in order that he may appear well in society. Another motive closely related to this is an interest in practical gain. In working from this motive, the child attends to a certain thing because he is told that in later life he may gain through it means of earning a livelihood, money, etc. The highest motive a child can work from is duty, when he studies because it is right to do so. The teacher should try always to make this motive prominent and to lead the child to work because of it.

Voluntary attention, secured by means of any of these motives, is a very valuable thing to the child. It makes him a self-directing, self-controlled worker who can turn his attention to any subject and hold it there continuously. At first, this holding

of the attention to a subject may require so much voluntary effort that the result of the study may not be great, but continued practice in this direction will produce a habit of attention which takes very little effort of the will and secures a large result. Then, too, attention which is at first voluntary may, through understanding what is studied, give place to apperceiving involuntary attention which is so desirable.

In closing we would say to the teacher, place the highest value upon attention, secure the attention of the child, secure it in the ways suggested by this paper or in any legitimate way, but make it the fundamental principle of all your teaching. The attention of the child must be upon the lesson in hand.

AKRON NORMAL SCHOOL, AKRON, O.

ON THE HISTORY OF EDUCATION.—III.

STORMS.

Since Christianity, from its very inception, has to do with the individual man and with *each* individual man, for no other reason than that he is such, and since, in order that he may become more nearly worthy of this consideration and rise to his higher possibilities, he must be "drawn out," there is a certain irremediable intertwining between the history of religious and educational movements. Hence, to use a bold figure, one might say that modern education, born heir to a goodly heritage, came into existence with the coming of Christ, but was withheld from its full rightful possessions until the fierce battle of the Reformation was over—until Luther had raised and ruled the storm.

Nothing could have been more inevitable, despite the care of the early fathers, than the revival of the Pagan learning. To the human mind some progress is inevitable, and no sooner would advancement in letters be well begun than the desire for the wealth of ancient lore would spring into being. Such, indeed, all history shows to have been the case, with results in Italy and Germany, varying widely, yet uniting to produce one result—the Reformation.

As an institution, one of the important offices the Christian church had to perform, was the continuance of an authority (in effect civic) in central Italy and the preservation, in a large part, of the valuable characteristics of the Roman empire. Its method was interesting and unique. Hav-

fastened its roots well into Italian soil, it grew and climbed—a tender, clinging, yet persistent vine, which, little by little, covered the skeleton of the perishing Roman empire, until, at length, the Roman empire had faded away and the Roman church flourished in its guise and stead.

Given this condition, a modern Christian idea, shaped and modeled through the creeping centuries into the likeness of one Pagan institution and the function of another, and it needed only the oncoming wave of reverence for ancient learning, which Dante, Boccaccio and Petrarch had set in motion, to complete the moral and spiritual submersion of the mediæval church. It was a development most consistent. Christianity was a simple guide, pointing to chastity, poverty, unselfishness and homely goodness. The early Christians were pagans at heart in many instances—how could it be otherwise!—and presently, the heart had fitted the simple religion to its wild cravings by making it largely pagan. It was a gradual process but a sure one; and when at length, open recognition of the old learning revived, the priests and popes were ready to throw away even a semblance of the life of the lowly Master.

This sad condition among the church dignitaries which reached its height in the fifteenth century, served only to whet their differently constituted German neighbors, also touched with the scholastic contagion, to an altogether different course of action. It heralded the Reformation. It proved the battle ground whereon man forcibly took possession of his rights, and henceforth he may speak the truth as it appeals to him, and dare to stand without human intervention face to face with his Maker.

Agricola, Ruechlin, Erasmus, Melancthon and Luther were the constellation of glories that shone in Germany at this time, and for all the world for time to come. They were teachers, both in a general and specific sense. They gave learning encouragement and impetus by their high attainments and spotless characters.

To know much, filled them with the greatest desire for the progress of learning for its own sake and for culture and citizenship. They grappled with the questions with which we are still confronted. Agricola, who had been asked to take charge of a school, wrote to a friend declaring a school to be "a most difficult and vexatious thing;" and further dissenting upon the contradiction implied in the name. "The Greeks," he says "named it *schola*, that is leisure; the Latins, *ludus literarius*, literary play; but there is nothing further from leisure than the school, nothing harder and more opposed to play." He once gave the following

—a teacher: "It is necessary

to exercise the greatest care in choosing a director for your school. Take neither a theologian nor a so called rhetorician. * * * It is necessary to seek a man resembling the phoenix of Achilles; that is, one who knows how to teach, to speak and to act at the same time. If you know of such a man get him at any price." Rucehlin was a noted Hebrew scholar, a pioneer in that line outside of the Jews themselves. Erasmus was, doubtless, the most versatile scholar of the time, and a man of most liberal views for that age. "True religion," he said, "is peace, and we can not have peace unless we leave the conscience unshackled on obscure points on which certainty is impossible." However, by his own confession, he was not of the stuff which makes martyrs. It required the fiery and impetuous Luther for the active fight; the man who, in the teeth of all authority, said "I can not, and will not recant. * * * Here I stand; I can not do otherwise. God help me. Amen;" the man who, metaphorically if not literally, threw divers ink-horns at the Prince of Evil. "If therefore the light that is in thee be darkness how great is that darkness." When the leaders of the people, the priests, became disaffected and untrue, what hope could there be for the common people? Meager as were the teachings of the catechetical schools, the absence of such teaching made the ignorance still more appalling. Luther, whose work as a self-constituted missionary, was very extensive, found everywhere cause for sorrow. This "great true man" held most advanced ideas of the utility and necessity for schools, not only for boys and men but for girls and women, in order that better government might rule and temporal prosperity be gained. He rebelled against the degraded condition of the teacher, and sought with tongue and pen, as was his wont, to remedy the matter. "No one," he says, "can ever sufficiently remunerate the industrious and pious teacher that faithfully educates the children. If I were obliged to leave off preaching and other duties, there is no office I would rather have than that of a school teacher; for I know that this work is, with preaching, the most useful, greatest and best; and I do not know which of the two is to be preferred. For it is difficult to make old dogs docile and old rogues pious, yet, that is what the ministry works at, and must work at in great part in vain; but young trees, although some may break, are more easily bent and trained. Therefore, let it be one of the highest virtues on earth faithfully to educate the children."

The reformer's sympathy with the narrow, stunted, gross lives of the common people lead him at length to translate the Bible into their native tongue. Very soon "even shoemakers, women

and ignorant persons" were reading it—getting light and comfort from the fountain head.

This was giving Freedom weapons with which to defend and maintain itself. This settled the question. The deed was done. The people's homely truth, their right to themselves and their own conclusions, swept away the poor defenses of error and paganism, as the angry sea makes toys of dykes.

So the great storm passed, and the sun of progress shone forth promising still greater achievements to education.

HARRIET HICKOX HELLER.

OMAHA, NEB.

MORAL TRAINING.

To what holier purpose can time be appropriated, than, when a child gets lost in error, to set his face towards the right point of the moral compass before he is started off again? The glass of time contains no sands more sacred than those which run during these precious moments. When I look back to the playmates of my childhood; when I remember the acquaintance which I formed with nine college classes; when I cast my eye over the circles of men with whom professional and public duties made me conversant; I find amongst all these examples, that, for one man who has been ruined for want of intellect or attainment, hundreds have perished for want of morals. And yet, with this disproportion between the causes of human ruin, we go on, bestowing at least a hundred times more care and pain and cost in the education of the intellect, than in the cultivation of the moral sentiments, and in the establishment of moral principles. From year to year, we pursue the same course of navigation, with all these treasure-laden vessels going down to destruction around us and before us, when, if the ocean in which they are sunk were not fathomless and bottomless, the wrecks, ere this would have filled it solid to the surface.—

Horace Mann.

So long as education meant to us the mere accumulation of knowledge, and the mind was a sort of receptacle to be filled with facts, it did not matter whether we knew the child or not, for the man was to be fitted to the education and not the education to the man. The present idea of education which physiological psychology has forced us to accept, puts a very different phase upon the subject. Education is now considered to be simply a growth of body, mind and soul—a united growth, and by laws that are very similar. A defect in one is felt in all. * * *

—G. W. A. LUCKEY, in *The Child-Study Monthly*.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"The teacher's work is susceptible of a logical division into two parts—he stores minds, and he trains them. The modern educator believes the second function to be the higher, because the trained mind can store itself. The effort of the intelligent teacher is to employ such methods in storing the minds of his pupils with knowledge that they shall acquire at the same time the best training."—G. K. GILBERT.

STUDIES IN INDIANA GEOGRAPHY.—VI.

THE WABASH-ERIE REGION.

CHARLES R. DRYER.

The Wabash-Erie Region is a broad shallow trough extending from the west end of Lake Erie southwestward across Ohio to Central Indiana. An inspection of the accompanying map will show that it is bounded on the south by the divide between the tributaries of the Ohio and those of the Maumee and Wabash, and on the northwest by a belt of hills forming in part the divide between the Maumee and Wabash drainage and that of Lake Michigan. From Lake Erie the valley bottom rises about 200 feet in 100 miles to a summit near Fort Wayne, and then declines westward, reaching again the level of Lake Erie near Logansport, a distance of sixty miles. The elevation of the southern rim lies mostly between 400 and 500 feet above Lake Erie, while its northern rim rises to an equal height in the hills of Northeastern Indiana. Its width from north to south is a little over 100 miles. This region presents some unique and anomalous features, and exhibits a continuity and uniformity of structure which mark it as an interesting physical unit. Its peculiarities are most clearly revealed by its drainage.

Drainage.—An inspection of the map shows that the axis of the trough is traversed by one uninterrupted river channel, occupied, however, by different streams; from Lake Erie to Fort Wayne by the Maumee, thence for about ten miles by a marsh (now drained), thence by the Little Wabash to the main Wabash, and thence by the latter river. Down the sides of the trough flow eight streams of considerable size, four of them arranged opposite each other in pairs—the Blanchard-Auglaize and the Tiffin, the St. Mary's and the St. Joseph. The series on the south is continued at regular intervals by the upper Wabash (above Huntington), the Salamonie and the Mississinewa; but on the north the divide is too near to permit the

presence of any large stream except the Eel, which flows more nearly parallel with the axial stream. The drainage system as a whole is almost sagittate, like an unsymmetrical spear-head with five barbs. The general course of these streams is toward the western end of the trough, and normally all ought to be tributaries of the Wabash, yet four turn back upon themselves in a remarkable manner. The St. Mary's, after flowing northwestward sixty miles, and the St. Joseph, after flowing southwestward eighty miles, unite to form the Maumee, which then turns abruptly to the northeast, so that at Fort Wayne the St. Joseph changes its direction more than 160 degrees. The Blanchard-Auglaize flows westward from Findlay about fifty miles, and then by a broad curve nearly reverses its direction. The headwaters of all the southern rivers start directly toward the axis of the trough and Lake Erie, to the northeast, but after a few miles, apparently meet some obstruction and turn at right angles to the northwest. On their right banks tributaries are conspicuous by their absence or brevity. The Maumee from Fort Wayne to Defiance is a sluggish and very meandering stream flowing in a trench thirty to fifty feet deep and without any flood plain. On the south all the streams within thirty miles rise near the St. Mary's and flow parallel with the Maumee into the Auglaize. On the north side of the trough the drainage is almost equally peculiar. All the tributaries of the Tiffin are on the west side, and rise within two or three miles of the St. Joseph. The drainage area of the St. Joseph is, likewise, on its right bank only, and some of its longer tributaries, like Cedar and Fish creeks, have a habit of flowing parallel with it for half their course, and then turning toward it. To join the Aboit or the Eel would seem a more natural course for them. In short, the Wabash-Erie trough does not slope from one end toward the other, as river valleys usually do, but from the middle toward both ends. The valleys of the larger streams have a very long slope on one side, and a very short one on the other; one-half the rivers flow toward, and the other half away from their final destination, and the smaller tributaries, rising near some river which they do not enter, seek a distant outlet by circuitous and troubled courses which make the map a puzzle worthy of Central Africa.

Explanation.—It is the business of the scientific geographer to solve all such puzzles, and not to rest until the cause and origin of every phenomenon is explained. He is not content with discovering, describing and mapping natural or artificial features, but proceeds to ask and answer, if possible, the question, How did these things come to be so? An expert geographer could now in-

pal features of relief and the main events in the history of the region from a map showing the streams only. It is easy to see that along the Erie side of each of the large tributaries of the Maumee and the Wabash a ridge of some kind must exist, forming a barrier and a watershed. It is now much easier to guess the nature of these ridges than it was in 1870, when Mr. G. K. Gilbert, then a young geologist employed upon the Ohio survey, announced that he conceived the ridge along the Erie side of the St. Joseph and St. Mary's rivers to be "the superficial representation of a terminal glacial moraine, that rests directly on the rock-bed, and is covered by a heavy sheet of Erie clay—a subsequent aqueous and iceberg deposit." This was the key to explain all the peculiarities of the region, and subsequent observers have had little more to do than to apply it. Since 1870 the whole complex morainic system which extends across the United States from Cape Cod to Dakota has been surveyed and mapped, and the relation of the ridges of the Wabash-Erie region to that system has been determined.

MORAINES.

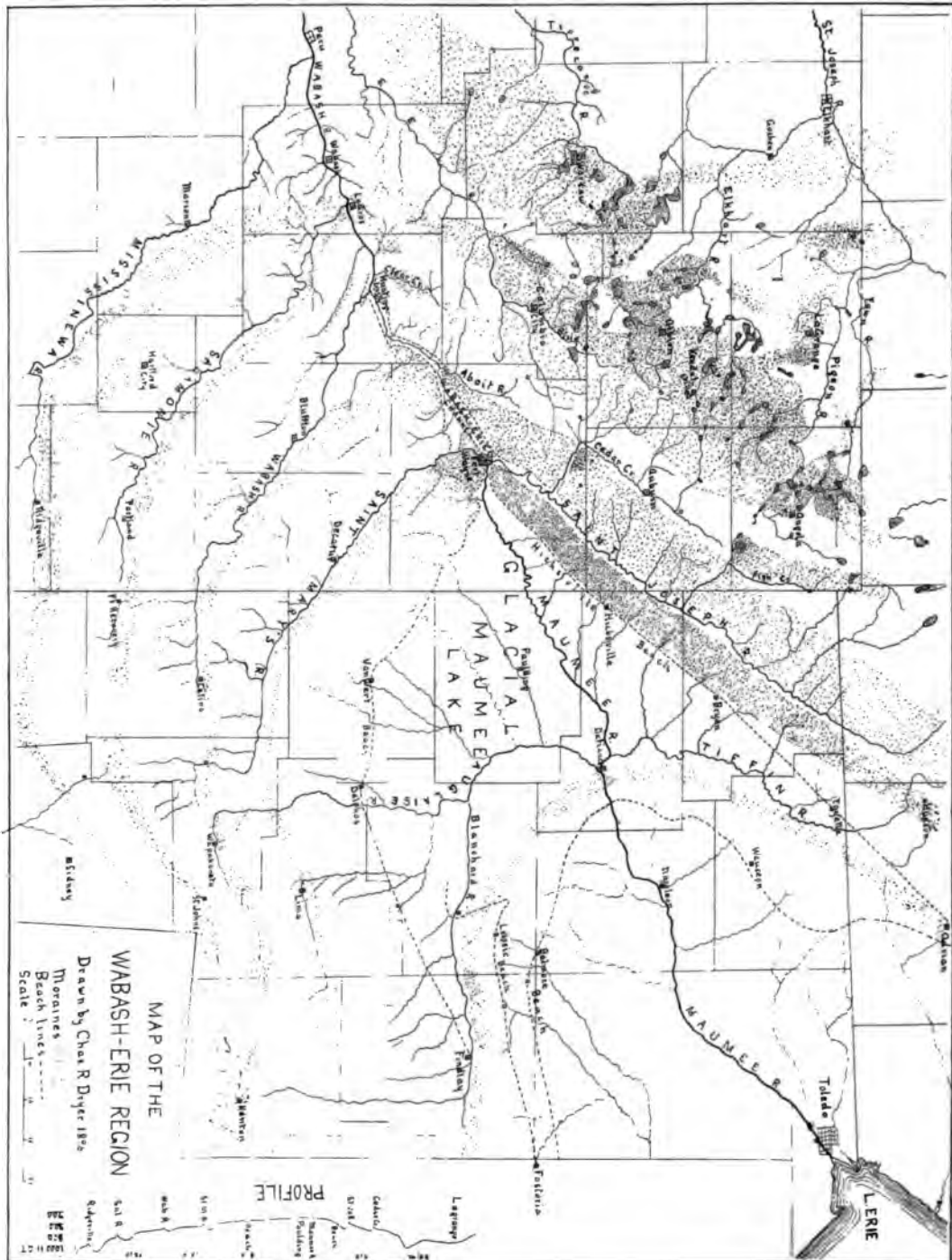
A glance at the map will show the peculiar form and arrangement of the moraines. They are seen to constitute a quite regular and symmetrical series of crescentic ridges, parallel, in the main, with each other and with the southwest shores of Lake Erie. Upon the north side of the axis they are crowded together, straightened out and otherwise deformed.

The Blanchard-Tiffin moraine, nearest to Lake Erie, and the youngest of the series, probably never very massive, has been so modified by the action of lake waters as to be the least prominent of all, but an expert glacialist would have little difficulty in tracing its course across the otherwise level country from Adrian, Michigan, to a point east of Cleveland, Ohio. It is more conspicuous east of Findlay than west of that place, and in that stretch consists, according to Mr. Leverett, of "a broadly ridged and slightly undulating tract of till (stony clay) standing twenty to forty feet or more above the plain south of it, and having a breadth of one and one-half to three miles." From the point where it is crossed by the Leipsic beach to the Maumee the moraine has a comparatively smooth surface. North of the Maumee it occasionally spreads out into a broad tract of sand. It rises and falls in its course across the country paying little attention to levels, but varying between 730 feet above tide near Defiance to 1250 feet at its eastern end.

The St. Mary's-St. Joseph moraine is more massive and uniform than the one just described, yet it

seliom presents any striking features which would attract the attention of the passing traveler. It is best seen upon the map by its influence upon the course of streams. "It is like a dead wave upon the surface of the ocean, hardly perceptible to the eye on account of its smoothness, but revealed by its effect upon everything that encounters it." It is not, as Mr. Gilbert thought, a buried moraine, but the ridge he describes is the moraine from bottom to top. South of the Maumee its Erie slope is very gentle and merges imperceptibly into the plain. Its crest is fifty to eighty feet above the St. Mary's river to which it slopes more abruptly. Its surface is generally smooth but occasionally becomes rolling with bluff margins. It is composed almost entirely of glacial clay, sand and gravel being very scarce. North of the Maumee the moraine is direct in its course, and its margins are sharply defined by the beach line on one side and the St. Joseph river on the other. It is four or five miles wide, fifty to seventy feet high and of the same structure as the southern portion. To the north, like all the rest, it connects with the moraine system in "the thumb" of Michigan. Its slope lengthwise is quite regular, from 800 feet above tide at Ft. Wayne to 900 feet in Southern Michigan and at its eastern end in Ohio.

The Wabash-Aboit moraine can be traced continuously a greater distance than any of its neighbors, at least from Central Ohio westward into Indiana, and northeastward far into Southern Michigan. In general character it resembles the St. Mary's-St. Joseph moraine. The upper Wabash once followed its outer face from Celina to the axial channel, but now turns away from it below Bluffton toward Huntington. The northern wing is much broader and more massive than the southern, and fills the space between the St. Joseph river and a half-filled valley partly occupied by the Aboit river. Cedar creek and the headwaters of Pigeon river. It is a rolling table-land, five to fifteen miles wide, about 100 feet above the St. Joseph and fifty feet above the valley on the west. Occupying the middle position in the series, it assumes some of the characteristic features of its neighbors on the west. Although its chief material is clay, it has a habit of rising here and there into abrupt rounded hills or conical peaks of gravel fifty to one hundred feet above the general level, as at the elbow of Cedar creek and in Southeastern Steuben county. These hilly portions are accompanied by small lakes, which become more numerous as the Michigan line is approached and passed. Fish and Clear lakes, both in Steuben county, and among the largest and most beautiful in Indiana, belong to this moraine. Like the rest,



it rises from its apex, 870 feet above tide in South-western Allen county to 1100 feet in Michigan and 940 feet in Hardin county, Ohio.

The *Salamanca-Blue moraine* is easily traced upon the map from "the knot" near Kenton, Ohio, along the usual curve to Angola, Indiana, but compared with the others it is weak, diffused, and inconstant. In Huntington county it is broken up into several strands and in Southern Whitley is represented by a belt of boulders. North of Eel river it can be distinguished from the general morainic mass only by its small features. It is a tumbled country; the hills, hollows, mounds, saucers and lakes are all there in great number and variety, but in miniature. It contains however one lake of the larger class—Blue River lake in Northeastern Whitley. Its elevation varies from 800 feet in Huntington county to 1050 feet at Angola, and 1000 at St. Johns, Ohio.

The *Mississippian-Eel moraine* surpasses the others in symmetry, and curving from "the knot" far southward, sweeps through a semicircle of full 200 miles. If one wishes to see a terminal moraine in all its distinguishing peculiarities, to get intimately acquainted with all its moods and phases so that he would be able to recognize one if he came across it anywhere, he cannot do better than to walk or drive over Whitley, Noble, LaGrange and Steuben counties, Indiana. The typical portion is from ten to twenty-five miles wide and sixty miles long. It is an irregular, variously undulating pile of clay, sand, gravel and boulders with the coarser materials predominating. Its surface is 150 to 300 feet above the country on either side, and its total thickness down to bed-rock from 200 to 475 feet. Its topography defies verbal description in detail, but may be included under a few general types. The greater part of the area may be designated as *crumpled*, resembling the surface of a sheet of paper which has been carelessly crushed in the hand and then spread out. The ridges have no particular direction, their tops are broad and slopes gentle, yet there is very little level ground. This type passes by insensible gradations into the *corrugated*, in which the ridges are steeper, sharper and arranged in somewhat parallel lines. Similar features very much exaggerated produce what may be called *gouged* or *chasmed* country, found in perfection southwest of Columbia City. The surface is entirely occupied by deep, irregular, elongated valleys, with narrow sharp, winding ridges between, all in indescribable confusion. The roads through it are very crooked in order to avoid the marshes, yet, in every direction, they are a series of steep descents and ascents. The relief might be imitated by taking a block of plastic clay and gouging it with some

blunt instrument in as irregular a manner as possible.

Scarcely more extreme and peculiar is the topography usually regarded as typical of terminal moraines, "the knob and basin." It consists of confused groups of dome-shaped or conical hills, often as steep and sharp as the materials, usually sand and gravel, will lie, with hollows of corresponding shape between. The impression made is as if the material had been dumped from above and left as it fell, like gravel from a wagon. Some of the finest specimens in America occur south of Albion, in the Diamond Lake hills near Ligonier, east of LaGrange, in the northwest corner of LaGrange county, and the grandest of all, north of Angola, where the peaks rise to about 1200 feet. Throughout this morainic region the hollows or "kettle holes" are occupied by marshes or lakes, the largest of which are shown upon the map. The number of such lakes in Indiana must be more than a thousand, and the marshes, or extinct lakes, out-number the living ones. A description of these will be given in another article. The last moraine, like the rest, rises toward its extremities, from 700 feet at La Grange to 1200 feet in Steuben county and 1100 feet in Ohio.

The peculiar structure of the Wabash-Erie region may be summed up in the following statements: Between Lake Erie and Peru the Erie-Wabash trough is crossed by five morainic ridges, which sweep in wide curves from one side to the other, parallel with each other and with the western shores of the lake. They vary in form from sagitate to crescentic with their convexities to the southwest. Their apexes rise with the general slope of the trough from the first to the third, and fall from the third to the fifth, while the extremities of the wings rise successively to greater heights through the whole series. The northern wings are more massive and are crowded together, while the southern are more symmetrical and disposed at equal intervals except that between the first and second which is greater than the other intervals. The southern tributaries of the Wabash and Maumee flow along the outer faces of these moraines, the northern more irregularly follow the narrow intervals between them. The profile upon the right side of the map, drawn from LaGrange to Paulding and from Paulding to Ridgeville in order to cross northern and southern moraines and streams at right angles, shows these peculiarities in a striking manner. Thus is the strange behavior of the streams which has puzzled observers for a hundred years explained, but only by substituting another puzzle in its place—that of the moraines. They remain to be accounted for, a problem which, like many others in geography,

can be solved only by reading backwards into the remote history of the region.

Physical history.—The studies of hundreds of geologists during the last twenty-five years have established the fact that a large part of North America was once covered by an ice-sheet which moved from its gathering grounds around Hudson Bay southwards to the Ohio and Missouri rivers.* The *motion* of the ice was always forward to the South, and its retreat was accomplished by the melting back of the front edge; thus, even while the edge was retreating the ice itself was always moving forward. Sometimes it came faster than it melted, sometimes the supply just balanced the melting, sometimes it melted faster than it came. The ice was thicker in the old valleys than upon the divides, and the valleys offered an easier course. Consequently it advanced farther in the valleys and retreated from them more slowly, and the sheet came to have a lobed or scalloped edge. The Erie-Maumee-Wabash valley contained one of these lobes which extended far into the heart of Indiana.† As the growing warmth of the climate melted it and the diminishing volume of the ice-stream from the North became insufficient to supply the waste, the edge slowly retreated. The whole load of soil and stones which it had gathered on its way from Labrador was left evenly spread out over the old rock surface, as a sheet of drift or *ground moraine*. But its retreat was not continuous. For some unknown reason there were periods when the supply of the ever-advancing stream was equal to the melting, and during such periods the edge remained stationary along a certain line. In that case the melting ice dropped more of its perpetually arriving load at the edge than elsewhere, and thus built up a ridge or *terminal moraine*. Such a morainic ridge, then, marks the line at which the edge of the ice-sheet halted for a long period, and thus reveals to us the shape of the lobe. In the Erie-Wabash region a succession of halts and retreats was performed with great regularity. The movements were like those of an army retreating in good order, which alternately throws up breastworks along its line of battle and abandons them to fortify another line farther back. To vary the simile a little, it is like an army ever advancing in solid column, but on account of the hot fire of the enemy not a man ever gets beyond a certain line, and at intervals the head of the column for a long distance back is wiped out. In such a case the distribution of bones, weapons and accoutrements would be precisely like that of the glacial drift.

The story of events on the north side of the Erie

ice lobe is a little different. There it ran against the side of another ice lobe which moved from Saginaw Bay southwestward into Northern Indiana. Its advance was obstructed, the ice was piled up in a thicker mass and the retreat was slower. The results of this are evident in the greater massiveness, straightness and crowding together of the moraines. The outermost moraine is the joint product of the Erie and Saginaw lobes, which accounts for its strongly marked features as before described. The line between Erie and Saginaw drift can be approximately located as passing through Albion, north and northeast through the corner of the four counties to the western border of the moraine in Northern Steuben. There is a notable difference of topography, soil, forest and flora upon the two sides of it. The moraines shown upon the map west of this line belong to the Saginaw lobe, which was comparatively feeble and disappeared from the state earlier than the Erie. The glacial invasion of Northeastern Indiana is a story of advance in double but unequal columns; of prolonged struggle between them; of defeat and evacuation on the part of the weaker forces, and of deliberate retreat on the part of the stronger from the field of battle.

The melting ice, of course, furnished a large supply of water which in its escape established not only the present drainage channels but many others now abandoned. The Eel River moraine contains scores of glacial drainage channels now partly filled with drift, and occupied by a lake, marsh or small stream. None of the present stream channels are older than the period of melting ice. The present streams frequently fail to fit the channels made by the original swollen floods, and wander about alternately in valleys much too wide for them, and in narrow ravines of their own cutting. The evidence is abundant that the Saginaw ice got out of the way first and left the country open for free drainage from the Erie ice into the basins of the St. Joseph of Lake Michigan and the Kankakee. The Mississinewa and Eel rivers were born at the same time, but after the first step of retreat the latter was lengthened by the addition of the Blue river and kept its channel open through the moraine at South Whitley. At this stage the Salamonie began. After the next retreat the upper Wabash carried the drainage of the ice front, assisted on the north by upper Pigeon river, possibly Fish creek and Cedar creek; the latter probably joined the Aboit, since the Aboit valley is far too large to be the work of the present short stream alone. When the ice retreated to the St. Mary's-St. Joseph moraine and the corresponding rivers came into existence, the Wabash received a considerable accession to its length which placed

* See map. INLAND EDUCATOR, Vol. II., p. 220.

† See map. INLAND EDUCATOR, Vol. III., p. 25.

its source in Southern Michigan. At this period the waters of the two rivers were carried south-westward through the Erie-Wabash channel, or, perhaps it is nearer the truth to say that these waters then cut that channel. As soon as the ice-front began to retreat from this moraine and to uncover the present Maumee valley, the slope was toward the ice, and the water began to stand between the moraine and the ice-front in the form of a long, narrow lake. Although this lake found an outlet westward into the St. Joseph-Wabash, it grew in area and depth until an adjustment between the level of the outlet and the ice-wall of the glacier while it paused at the line of the Blanchard-Tiffin moraine, caused the lake to occupy a relatively permanent position. This was the Maumee lake, as odd in shape as in other conditions. It had for its eastern shore a wall of ice extending from Findlay through Defiance to Adrian, for its southern shore a beach of its own construction now called the Van Wert ridge, and for its northwestern shore the margin of the St. Joseph moraine, along which its waves built up a beach now known as the Hicksville ridge. It emptied its surplus waters through the Ft. Wayne outlet and Erie-Wabash channel into the present Wabash at Huntington, forming a river a mile wide and deep enough to rival the present Niagara. This lake must have existed for many years or centuries, but could not be permanent: for the dam which held it up to that level was of ice. The ice continued to melt and retreat until an outlet was uncovered at a lower level in "the thumb" of Michigan, and the water began to flow that way into Saginaw Bay. The lake level slowly fell, the Erie-Wabash river began to dwindle, its channel silted up, and finally, after the lake was completely drained, even the St. Joseph and St. Mary's turned back through the gap and the Maumee river was born. A great thickness of fine clay had been deposited in the bottom of the glacial lake, through which the Maumee and other streams had to cut their way. The surface was very level, and the sluggish streams had to wriggle over it in tortuous courses. To this day the old lake bottom is one of the most difficult areas in America to drain.

We are now prepared to account for the variety of surface and soil found in the Erie-Wabash region. Underneath it all is the *ground moraine* of rather stiff gravelly clay, similar to the general mass of the drift sheet, and forming the surface soil over the greater part of the area. Piled upon this are the *terminal moraines*, largely composed of the same materials but containing, locally, great heaps and masses of sand and gravel. Out of this the glacial and present streams have washed much

of the finer material and deposited it in the old valleys and intermorainic intervals, some of which are nearly filled up, as along the upper Pigeon river, Cedar creek and the head of Eel river. Innumerable hollows and depressions which at first contained shallow lakes, have been filled with vegetable growth and converted into marshes, or if sufficiently drained, *muck lands*, rich for grass and corn. The bottom of the glacial Maumee lake is an exceedingly fine tough clay to which, in many places, the growth and decay of vegetation have added improved qualities.

Culture.—The whole region was originally covered with a heavy growth of hardwood forest, except the marshes, or so-called "wet prairies," and a few small tracts of genuine dry prairie in the northwest. No equal area has furnished more valuable timber, oak, walnut, beech, maple, ash, elm, sycamore, poplar, hickory, locust, cherry, and others. For unknown centuries before the advent of the white man, the Indian hunted in the forests and fished in the lakes. The Maumee-Wabash was an important route of canoe travel between the Great Lakes and the Ohio. The carry or portage from the head of the Maumee over to the little stream which now occupies the Erie-Wabash channel, was short and easy, and in 1680 LaSalle found there an Indian village and a fur-trading post. Here was a favorite congregating place for men, savage and civilized, at the forks of four waterways, and the spot was naturally predestined to be the site of an important town. It has passed through all the regular stages characteristic of so many American towns, Indian village and portage, trading post, military fort, modern city. It was as easy a route for the canal boat as for the canoe, and as early as 1823 the Wabash and Erie canal was constructed through it, having its summit level in the abandoned glacial drainage channel, and fed with water from the St. Joseph. Towns sprang up all along its course, and Defiance, Fort Wayne, Huntington, Wabash and Peru, owe their early start and substantial growth to their situation upon this line of communication.

Years after the canal the Wabash railroad followed the same route, and now three east and west trunk lines avail themselves of the Fort Wayne gap to pass through the highlands. At the same time the Maumee lake bottom, known as "the black swamp," with its tenacious soil, poor drainage, and absence of road-making materials offered a serious obstacle to immigration by wagon from the east, delaying the settlement of the country until long after that of Southern Indiana. The tide of immigration did not come in until the decade 1840-50. The heavy forest was but an indication of the fertility of the soil. The

pioneers had the courage and strength to attack, and with incredible labor to clear it away. Their reward was the rich farms which now form the greater part of the wealth of the region. Many of the marshes have been drained, among the rest the Erie-Wabash channel itself, thus adding to the health and productiveness of the country. The hills and lakes remain, and render the region of the higher moraines among the most picturesque and beautiful under the sun. The Maumee lake bottom has been last to come under the hand of man, and within the last year many square miles of virgin soil have been cleared, drained, and brought under profitable cultivation. Every feature of the Erie-Wabash region, natural and artificial, marsh, lake and hill, forest and farm, lonely cabin and prosperous city—is, in a real sense, the gift to man from the Erie lobe of the North American ice sheet.*

THE NECESSITY OF PHYSICAL CULTURE IN PUBLIC SCHOOLS.

"Mental and bodily exercises are equally essential to the general health and happiness."

Is there to-day a conscientious educator in the country who, in the face of the facts, would deny the obligation of looking after the physical welfare of the children?

Of all men and women the teacher should be the first to advise and warn people, and to insist on the necessity of "Physical Culture" in the schools. Where every one is engaged in the struggle for subsistence, having no leisure time to ponder over problems of education and to study the means of preserving the race, of prolonging our children's lives and of increasing their power of resistance and vitality, it is the province of our teachers, their solemn duty, to speak and to give the people the benefit of that superior knowledge which is derived from better and increased facilities of observation and study.

We are preparing the child, no one knows for what line of business or for what line of work. That is sometimes a matter of choice, not always a matter of talent, frequently of opportunity and of means. Our rising generations are put through an amount of brain-forcing that involves a serious risk of endangering brain power. By cultivating the physical, by developing the body, by making flesh and bone and nerve and fat, until the house is able to contain the guest; until the physical man is able to contain the intellectual man of the present day—that is the direction in which we must work. Those are the

*A more detailed description of Northeastern Indiana may be found in the 16th, 17th and 18th Reports of the State Geologist.

foundations we must furnish to uphold our future brain structure.

Give the coming generation healthy bodies to support studious and deep thinking minds.

How can we supply this want? We must artificially create a balance between body and mind.

We must develop the body by a system of exercises nicely graded to the strength and the wants of our children. With their multifarious school tasks our children have no time for the running at large which would do something in that direction.

The necessary exercises in a condensed and easily applied form must be provided for them. No one does more than he can help, and children will not do this, will not work for physical development, unless the matter is presented to them as a regular task whose performance becomes a duty.

Thus may we succeed, as the Greeks did of old, in raising strong, beautiful physiques, and healthy bodies, and at the same time store the mind with all that art and science have to teach us.

"Physical Culture" should be introduced as a regular branch of instruction in our common schools. The reasons are so self-evident, the proofs so convincing, and the matter itself so agreeable that it is only necessary to investigate in order to be convinced.

One of the most urgent reasons, why physical culture should be fostered in the common education of the child, is, because it so effectually promotes the esthetic sentiment, that the rational culture of the body is a duty, a moral.

What has been done in the past to awaken this sentiment? We are far from having aroused a general interest, and still our school training is justly charged with the one-sided culture of the mental activities, so that the mind may soar aloft, regardless of its partner, the body, which drags along on the rugged ground.

We recognize the good qualities of physical training in the higher schools of learning; in the colleges and universities of our country we do not wish to neglect this culture. Ample opportunities are given to the young men and women to correct at this late period of their life the fallacies of childhood education.

"The Committee of Fifteen on Physical Culture" says:

"In regard to physical culture your committee is agreed that there should be some form of special daily exercises, amounting in the aggregate to one hour each week. Systematic physical exercise has its sufficient reason in its aid to a graceful use of the limbs, its development of muscles that are left unused or rudimentary unless called forth by special training, and for the help it gives to the teacher in the way of school discipline."

LOUIS LEPPER.

TERRE HAUTE, IND.

PRIMARY WORK.

"LOOK UPON THIS PICTURE AND ON THIS."

The following poem and jingle aptly illustrate two current but widely different views of education. The first is a gem from Walt Whitman.

THERE WAS A CHILD WENT FORTH.

There was a child went forth one day,
And the first object that he looked upon, that object he became,
And that object became part of him for the day or a certain part of the day,
Or for many years or stretching cycles of years.
The early lilacs became part of this child,
And grass and white and red morning glories, and white and red clover and the song of the phoebe bird,
* * * * *
And the apple trees covered with blossoms, and the fruit afterward; and wood berries, and the commonest weeds by the road,
* * * * *
And the school mistress that passed on her way to the school,
And the friendly boys that passed and the quarrelsome boys,
And the tidy and fresh-checked girls, and the barefoot negro boy and girl,
And all the changes of city and country wherever he went.

The following seems to be nameless and authorless:

Ram it in, cram it in,
Children's heads are hollow;
Slam it in, jam it in
Still there's more to follow,
Hygiene, history,
Astronomic mystery,
Algebra, histology,
Latin, etymology,
Botany, geometry,
Greek and trigonometry;
Ram it in, cram it in,
Children's heads are hollow.
Rap it in, tap it in,
What are teachers paid for?
Bang it in, slam it in,
What are children made for?
Ancient archaeology,
Aryan philology,
Prosody, zoölogy,
Physics, climatology,
Calculus and mathematics,
Rhetoric and hydrostatics;
Hoax it in, cox it in,
Children's heads are hollow.
Scold it in, mold it in,
All that they can swallow;
Fold it in, hold it in,
Still there's more to follow,
Faces pinched, sad and pale,
Tell the same unvarying tale,
Tell of moments robbed from sleep,
Meals untasted, studies deep;
Those who've passed the furnace through
With aching brow will tell to you
How the teacher crammed it in,

Rammed it in, jammed it in,
Rubbed it in, clubbed it in,
Pressed it in, caressed it in,
Rapped it in and slapped it in,
When their heads were hollow!

EARLY NUMBER TEACHING.

In the teaching of number, much help will be found, in the clear understanding of the nature and origin of number. While number is confused with the language which expresses it or is viewed merely as an attribute of objects, and while its origin and natural unfolding are not understood, number teaching cannot accomplish what it should. Teachers will find themselves amply repaid by a more detailed study of these questions than can be given here. (A most helpful book for this purpose is "The Psychology of Number" by McLellan and Dewey.) Very briefly stated they are as follows:

I. THE NATURE OF NUMBER.

Number is not number symbols. It is not a quality of objects which may be perceived as is color. For this reason pupils may be given many number lessons with objects without really getting the desired number ideas. Number is a mental product—the result of an act of mind. The mental act by which a number idea is gained is three fold:

1. The mind sees a whole whose exact measurement is unknown.
2. It sees in this whole certain parts.
3. It finds the measurement or value of this whole by seeing it in relation to these parts.

In other words number is an exact idea of quantity reached through an inexact idea.

II. ORIGIN OF NUMBER.

Number ideas originated historically in the need of measuring quantity. They arise in the same way in each child's mind. He wishes to know just how many or how much there is of some undetermined quantity, and sets about measuring it by counting, or other means, until the exact idea is reached.

III. NUMBER TEACHING.

As has been said, number teaching, to be true to the laws of number and of mind, must be based upon the two thoughts just stated:

- (1) That number is a mental thing.
- (2) That it arises from the need of measuring a quantity whose value is not clearly seen.

Number ideas naturally arise from thinking of a quantity, (1) As an indefinite thing. (2) As in parts. (3) As a definite thing measured by these parts. Number teaching should follow these three steps. This is true in the teaching of any particular number fact. In leading the pupils to the knowledge that a cube has eight corners the steps might be taken as follows:

1. The cube has a number of corners. (Indefinite).

2. It has four upper and four lower corners. (The indefinite whole measured by known parts).

3. Four upper corners and four lower corners are eight corners. (The definite whole).

The same steps are also found in the growth of a child's number ideas in general. There is first a stage in which all his notions of number are dim. It is natural for him to see nine objects only as a quantity called nine. It would be unnatural at this period to hold him to a critical examination and memorizing of the value of the group; as $4+5$ or $7+2$. This would come at a later time in his development. When it comes it is his natural delight to see the parts that make up every whole. There the complete analysis of a number, or the learning of *all* its combinations, finds its place. Lastly, he reaches a point where every quantity is viewed as a whole made up of parts.

In applying this truth to teaching, it is necessary to find out how long the child continues in the first stage, and how long in the second. For if we attempt to force upon him a thing for which he is mentally not ready, our efforts are worse than wasted. He may memorize the points we present, it is true, but he has not the power to use them, nor does he see their utility.

It is the general verdict of teachers that in teaching all the combinations of numbers from 1 to 20 or 25 in the first two years of school life, much drudgery is necessary, and facts which seem to have been grasped one day, or week, are gone the next. This leads to an undue forcing of the memory, while number should appeal primarily to attention and judgment. What we wish as the great result of early number teaching is not so much a something remembered by the children as the habit and ability of adapting means to reach an end.

Children of this age are still in the first stage of number ideas, and a continued and exhaustive analysis of number is unnatural to them. For example, in dealing with the number 12, the stress should not be upon $11+1$, $12-7$ and so through the manifold combinations, expecting the children to be able to give from memory each result. Such analysis of number and the remembering of these definite results come naturally from a longer period of actual use of numbers than the pupils have yet had.

Give them, rather, work in which the *whole* is the emphasized thing. Let the analysis be for the sake of measuring this whole. Let it be largely the natural breaking up into halves, thirds, fourths and other fractional parts, and follow it each time

with the re-uniting to form the original whole. As applied to 12 the work might include:

(1) 12 inches in 1 foot, 12 things in 1 dozen, 12 hours in 1 day, 12 months in 1 year, 12 edges to the cube or right prism.

(2) Measuring. (a) Length by the foot, things by the dozen, time by the 12-hour-day and by the year. (b) Each of these units of measure by its half, third, fourth, etc., and noting the result.

(3) Constructing forms involving 12 of sticks, tablets or solids (wooden or made in clay by the children); resolving these forms into other forms made up of 2, 3, 4, or 6 each, noting how many of these smaller forms can be made, then reconstructing with them the original form.

Let this work be gradually replaced by exercises in which analysis is the important part, when the pupils have reached a point in development where such work is characteristic of them. This will lead to the habit of seeing all quantity as made up of parts.

It was stated that number teaching should be influenced by a knowledge not only of the nature of number but also the fact that it originates in the need of measuring quantity. All the number ideas gained by a child before he enters school come from his having measured quantity. The teacher should take advantage of this natural desire and suit her method to it. Give the children quantity of various kinds and let them actually measure it. Let the most of the work be done with quantities having a definite size or value rather than with such objects as apples, boxes and animals. There is a great variety of material for these exercises. They may include work with the inch, foot, yard; the square and cube of each of these; the pint, quart, gallon, peck, bushel, dozen, ounce, pound; cent, half-dime, dime, quarter-dollar, half-dollar, dollar; hour, day, week, month, year; the surfaces, edges and corners of such solids as sphere, hemisphere, cylinder, cube, square prism, triangular prism; and the different orders of units themselves—units, tens, and hundreds. This will involve the incidental use, in each grade, of many numbers which are larger than the limit usually given for that grade. But out of school the children are constantly *using* such numbers. They know 50 cents better than they know 13. They are able to thus *use* numbers intelligently, because in that use the number is thought of as a whole. They would not be able to thoroughly analyze them.

A good device for teaching surface measure is the folding of four-inch paper squares so that they are marked off by creases into square inches. The long number table found in so many rooms will take a new lease on life if its top be accurately

marked off into square inches after the fashion of the ordinary kindergarten table. The foundation for ideas of cubic measure may be laid by the use of a number of wooden inch cubes, leading the children to find the number of cubic inches in any combination of them. Such work when once entered upon presents many varied and valuable possibilities.

The construction of forms from sticks, tablets and solids of exact dimensions and a consideration of their numerical value will be found useful. This work when it is the carrying out of a plan in the child's thought secures the active *willing* of number truths rather than the passive perception of them. Such work is rational. There is no reason apparent to the child for putting 2 and 2 together to make 4, but there is a reason for putting two sticks forming a right angle with two more sticks, forming a right angle, in such a way as to make a square. In the first case the unity of $2 + 2$ is not really seen. It can be seen only when the parts are united for a *purpose*—when they are means used to bring about a certain end.

In the measuring work bring out clearly and repeatedly the idea that a quantity may be measured by many different units. For example let the yard be measured by the half yard, the foot, the half foot, and let each of these units be itself thus measured at some time. Any quantity becomes as truly a unit as is 1, when it is used as a measurer.

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THE STORY OF AN INDOOR REST.

I. WHAT HAPPENED.

At the word "Rest," there is a hum and a flutter, as every child in the room instantly plunges into some chosen activity. I seem to be attending to some affairs about my desk, but really I am watching closely to see in what ways this self-directed interval is to be spent.

Two small boys, Earl and Eddie, lose no time in establishing themselves at the blackboard. Mounted on chairs,—for the board is unfortunately high—they mark off some six feet of territory as their own. I know that some great cooperative scheme is now to be worked out. A few free, bold strokes of the crayon, and there rises before my gaze, a circus tent—of all things for a January day! There is the center-pole, a little unsteady to be sure, but proudly holding a canvas cone aloft, and surmounted by a flag of wondrous grace and beauty,—at least think the small creators, and so thinks the admiring crowd which has gathered about.

From the central point now established, Eddie

works in one direction and Earl in the other, so that each boy makes one-half of the truly gigantic tent. Now a trapeze drops from the roof, and before my astonished gaze there appears a man hanging from said trapeze by his toes, to the utter disregard of possible consequences. Another follows in quick succession, and then another and another, until there is a whole row of acrobats performing some of the most reckless and giddy feats ever announced on any bills. Flags are flying over-head. This is no small affair. It is a monster aggregation of glittering wonders, gotten up regardless of expense. Rows of well proportioned and correctly-placed seats rise to the canvas heavens, and soon every seat is filled by a presumably eager audience. Said audience seems to be somewhat rickety in the joints, and, if one might judge by the attitudes assumed by the major portion, sadly given to intoxicants. Such is the general instability of equilibrium that I cannot account for the fact of these circus-goers retaining their seats, except upon the hypothesis that they are glued thereon. But no doubt harrows the souls of the rapidly-working young artists, who see their fair creation through a golden mist of beauty and reality. In their eyes these crude lines are transformed into soul-satisfying life and grace and beauty. But look! Here come the animals. The first one is a mysterious creature which I am entirely unable to classify. The thought occurs to me as I with awe behold it, that such a beast would be a fortune in itself to any showman in the world.—so rare is it, so unlike any form of life known in earth or sea or sky. Soon appears another nondescript following closely in the wake of the first. Next, the elephant, easily recognizable. His main outlines of body, head and trunk are surprisingly accurate, and as an elephant he is a great success in spite of over-long and slender legs and a pair of antennae-like tusks stuck on at right angles to his head. But notwithstanding the attractions of the great pachyderm my attention goes back to that strange leader of the procession. I restrain my curiosity, however, until a favorable opportunity a day later, when I ask Eddie: "When you made the show over there yesterday, what was that first animal you drew?" For a moment the dear little face was enveloped in a thick cloud of effort to recollect; then an instantaneous clearing, and in tones of ineffable serenity and assurance came the reply, "a horth."

While young Barnum and Bailey are exhibiting their array of stupendous attractions all under one tent to a more than delighted group of beholders, other things are going on; in fact, a number of other things. The blackboard space is entirely taken up, as high as the children can reach,

I am attracted by a company of, perhaps, half a dozen children, both boys and girls, who are working together in great harmony. Some benevolent soul has given Clessie Cummins several sticks of heavenly delight in the shape of colored crayon. He gives as freely as he has received, and the fortunate ones combine to occupy a territory extending perhaps five feet along the blackboard, where, through their united efforts, a landscape of varied features soon appears. A pale yellow tree speedily puts forth leaves of conventional design, and a bright blue bird is flying overhead. A nest, some six or eight sizes too small, is placed in the tree for the accommodation of the brilliant songster. Brown and yellow houses spring up, which must be constructed largely of glass, for the interiors, disclosing an abundance of blue furniture, are plainly visible. As many children as can crowd into the allotted space, the smaller ones standing on chairs, are drawing for dear life—literally, not figuratively, because it is dear life to them,—so that much is accomplished in a brief time. I notice particularly a sturdy, spreading tree, of oak-like outline. Its trunk is drawn in shaded browns, and there is commendable symmetry of trunk and branches. Pink and blue leaves burst forth to cover it, immediately followed by fruit of such proportion, that, supposing the tree to be twenty feet high, this strange fruit must be the size of tubs or bushel-baskets; and some of it, hanging just above a house, seems to threaten destruction by crashing through the roof.

Nobility is well represented in my room, as I have two Earls. Earl Headlee shows unusual ability in drawing, and he is spending this rest at the blackboard, in company with Arthur Woods. As Earl draws, Arthur helps to furnish ideas and to interpret. Little Joe Harper and several others stand by to admire and assist in the talking. But it is Arthur who pours out his soul: "Oh, Miss F—, do look at that horse! And it a good horse! And see how its heels are kicking up in the air! Oh, what's that? It is a boy, and the horse has thrown him off!! Look at him fly! Oh—e-e-!!!" [Dances vigorously and seems threatened with spasms.]

"Oh, Earl, make him where he's struck the ground! Make him where he's struck the ground! Make him where he's struck the ground! Oh Miss F—, look, here he's struck the ground!!! There he is, dead! He! he! h-a-a! Do look, Miss F—, here he's up going through the air and here he's fell down dead, oh, ho! ho! ho!"

For two or three minutes my attention is taken away from this scene of tragedy to other things. I am suddenly recalled by Arthur, who in joyous tones announces, "It's all over now. We've bur-

ied him. Here is his grave. It's Joe; and see, we've put 'J. H.' on the tombstone!" O childish, sweet unconsciousness of sorrow, the grave has yet no bitterness for you!

The activities so far described had not been suggested by anything I had said, or any work that had been given in school. Indeed, this rest is scarcely typical in this respect, as usually the things done are, to a great degree, the direct outgrowth of the lessons. Still, a number of things, evidently so suggested, are going on. When one child drew an animal and neatly labelled it "wolf," I inferred that he might have in mind the story of "Red Riding Hood," which some time before had been enjoyed and illustrated by the children. Another boy, in drawing a driving rain over the before-mentioned circus tent, makes just the free, large, easy stroke that had been aimed at in the drawing lessons. Beatrice Tetley, my dear little woman, a pattern of good works, stands at the board, quietly and alone, entirely unmoved by the goings-on around. "Did you have a happy Christmas?" "Yes, I did." "See, Miss F—, this is what I asked you, and this is what you said." It is characteristic of Beatrice that this kindly sentiment is most painstakingly written, and "Christmas" is spelled right. But when I first looked, "Us" was in place of "Yes." It was also characteristic of the child that after a question or two she corrected the mistake.

That not all the children are at the blackboard is accounted for by the fact that there is not room for all. But there are other resources. Four wide window ledges, though somewhat high, are filled with happy little bodies—to say nothing of souls. To mount the back of the nearest seat, to spring up to that elevated perch in the window, to sit there and swing ones feet and commune with somebody else as adventurous and aspiring as one's self—it is achievement; it is satisfaction; it is bliss.

Not less favored, perhaps, are those others who are playing school. They also prove their arboreal ancestry by climbing; and there—ah, happy sight! is a row of small legs dangling from the edge of a long table, which stands against the wall. The teacher of this school is Ethel, and she has collected and arranged her pupils with care upon this elevated seat. Standing on the floor, facing them, she assumes the air of a brigadier-general, or of some others we all might name, who strut about, clothed with a little brief authority. But she is in high, good humor, and in spite of her pompous and lofty air she does some really good work, for she is a born executive, and has much innate strength and goodness.

A flourishing rival institution is being conducted

by Carrie. As I look at her, I see far more than a little light-haired girl enveloped in a green checked gingham apron. For in her the future stands revealed, and I see a noble woman, sweet and strong of soul, a thinker, a writer, a molder of opinions, a power in her day and generation. She is playing teacher now, but the day is coming, if Carrie is left for a few years upon this earth, when she will be teaching in one way or another, and it will not be play.

At the sound of a familiar signal all these multitudinous activities cease. The busy hands and tongues and feet are suddenly stilled, and rest is over. The small actors in these varied dramas start toward their seats. My eye must take in many things, but nothing prevents me from seeing John throw two stout arms around tiny Mary, and lift her tenderly down from the window seat.

II. WHAT THE HAPPENINGS MEANT.

That is to say, a little of what the happenings may mean. For it is as impossible a task to give accurately and in detail the meanings, great and small, of the activities indicated above, as it was to record all the activities performed. First, let it be said that as no outdoor recesses are allowed, all that can be done under the circumstances is to make indoor rests as effective as possible in providing for the children's needs. Hence, the length of time allowed, which was about twenty minutes in the instance described. Hence, also, the free opportunity for exercise and diversion.

That a circus should have been drawn on the board in January is evidently a strong testimony to the power of interest, as affecting observation, memory and imagination. Nothing which had not appealed powerfully to the child's interest could have been so faithfully reproduced in elaborate detail. To look at the drawing was to be convinced of the intensity and accuracy of the original observation, which must have occurred at least half a year before. The entrancing spectacle was still clear and beautiful in the mind's eye; and it was necessary to the peace of that small mind that the beauty within should reappear, and confront its gaze once more from without.

That the work with colored crayon was vastly more attractive than the usual black and white effect, was very apparent. Judging from other work with colors it is probable that the yellow and pink and blue leaves on the trees were so because there was no green to be had. The children simply used what was at hand, and the desire to work with the pretty colors was stronger than the sense of artistic fitness. The pleasure of making anything with pink chalk is so overpowering when you are seven years old, that it matters little whether you draw roses or horses. But that there

was some feeling of fitness in color was shown by the blue bird and the brown tree-trunk and houses.

The successive drawings of the fractious horse, the falling boy, and his sad end, did not, as might be supposed, show a state of hardened sensibilities. The real meaning of such an occurrence had never been experienced, and the pictures were enjoyable because they set forth a quick succession of exciting events. It was noticeable that although each pictured situation was evidently clearly distinguished from the others, they were all held very close together in mind; that the relations between them were also clearly seen; and that the deepest enjoyment seemed to come not from the separate drawings, but from the imagined connection between them, so that the crowning pleasure was not in separate detail, but in unity. The horse, with his heels still in the air, was much more interesting after the boy began to fall; and both boy and horse were vastly more important after the setting-forth of the harrowing sequel. On the other hand, the picturing of the sequel alone would have meant but little were it not for its imagined relation to what preceded. To see so many striking particulars as unified, to grasp the meaning of the whole, and to picture out the thought in a spirited way, as was done, made the work of considerable educational value.

In general, the meaning of the rest, to the children, was an opportunity for self-activity in such forms as the planning and carrying out of courses of action which would require cooperation, and bring into exercise almost every faculty and resource of mind, in such forms as the thinking of independent thought and its expression in diverse ways. This round of self-activity means to the child a more abundant life; new knowledge, new power, new desire; and makes him not only a stronger, but a more social, individual.

MARY FRAZEE.

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SPONTANEOUS ACTIVITIES.

What are the spontaneous activities of the child? In other words, what must the child do from the nature of its being, the nature of the stimulus acting through its body and in its mind, and the potentialities of the ego? What are the tendencies of these spontaneous activities? The child's consciousness begins in obscurity, weakness, and vagueness, and still in this very obscurity and vagueness there is great activity. The very few weak and obscure ideas of color and sound and form set the whole being into motion.

Perhaps the most marked mental action of the little child is the fanciful creation of new ideas and images. A little vague color and sound, and

a few percepts of touch, are sufficient to set the little being into most vigorous action. External objects act upon the child and produce their correspondences, individual concepts, in its mind. As I have already said, these concepts are very vague, obscure, and indistinct. Notwithstanding all this, creation is the moving, central power and delight of the child. * * * *

Did you ever see a little child go to the blackboard to illustrate a fairy story, or to give free rein to his budding fancy? His self-confidence only equals his delight to express what he feels. With broad, free lines he draws hills, valleys, trees, bushes, houses, and people; no fear of mistakes, no apprehension of crudeness. Here is unity of action, self-confidence, and childish freedom. Step in, O teacher, if you dare, and break that unity of action, destroy that self-confidence, with your withering notions of accuracy! Tell the youthful artist that he has drawn all sides of the hill and the house, that the chimneys are tottering, that the trees are falling over, and that the men and women are skeletons. The child has done his best; please do your best; make one suggestion. For instance, "You do not wish to have your chimney fall over, do you? * * * *

Remember that ease and equilibrium must precede precision, and that the child is telling the story as he *feels* it, and that he will feel it better if you give the help that he needs,—help that will not destroy his beautiful self-confidence, and crush out his delight in the work. That moment is a dangerous one for a child—indeed, for any one—when the critical faculty surpasses skill. That is the reason we do not learn to draw, my fellow-teachers. If we could become "as a little child," we might acquire a skill that has hardly an equal in teaching power. Pace by pace, the critical power should keep step with skill, and both steadily move to higher levels. Recognize weakness, sympathize with it, and lead it with a loving hand toward the full strength of complete manhood. Remember, above all things, that it is not the rude sketch on the blackboard, but the soul of the child; not what he has done with chalk, but that which is done in the child's heart under the motive and action of doing. The divine Pestalozzi said, "Education is the generation of power." Watch that power as you value immortal souls, develop that power as you believe in God and in eternity.

Talks on Pedagogics.—COL. FRANCIS PARKER.

A MEMORY GEM.

In a recent number of THE INLAND EDUCATOR Longfellow's exquisite little poem was printed:

"Nature, the old nurse, etc."

The lines were in keeping with the school work

in geography and were presented to a class of very small children. The teacher was delighted with the quick appreciation of the children, and was flattering herself that few explanations were necessary, when a dear little five-year-old exclaimed with sparkling eyes. "That must mean you, for you tell us stories. You are our dear old nurse."

The teacher was not altogether displeased at this unlooked for application but lost no time in trying to enlarge his views.

A few questions and suggestions gave the class a clearer notion of the poem than many an older person has. They were greatly pleased to think that they were learning lessons from the story-book their Father had written for them. Nor did it seem a mere matter of words when every voice gave one answer to the question, "Who is the Father?" God, the Father, is no theological dogma to little children but a real and living presence.

Almost before the teacher realized it the class had taken both thought and words to themselves and recited the poem in concert with evident enjoyment.

It is one of many gems which they have committed during the year, not one of which has been learned until the thought had become their own. Each selection has had some bearing upon the work in hand, so that the teacher feels confident that the time has not been wasted in mere memorizing. B.

HYGIENE OF SCHOOL ARCHITECTURE.

In studying the subject of ventilation we have to consider the chemical and physical qualities of the air, the various sources of it and of the changes in its composition which necessitate its renewal, the forces which are available to cause its motion in the direction best suited for the purpose, and the arrangement of openings, ducts, flues, shafts, etc., which are best adapted to secure the entrance, diffusion and exit of the quantity of air required.

We may have a general knowledge of ventilation and the condition of the air, and the results of bad ventilation, but when we come to make practical application it becomes a complex problem. A special study of the environment and condition of the individual building must be made if we wish to obtain the best results. Notwithstanding that good ventilation is important we find a great many school buildings are very poorly ventilated. There are a host of authorities upon the subject of the evils of bad ventilation, and all agree that the death-rate increases for the localities where the vents wish to

condemn the good results of teaching the evils of narcotics in our public schools, but if the people would use half the energy upon an effort to have good ventilation that they do upon temperance we would not have so many people coming out of the schools with bad health. Bad health in many cases can be traced to bad ventilation. Of all the causes for bad health, breathing impure air causes more sickness than all the others combined. The majority of the diseases caused by breathing impure air are tubercular.

Consumption is commonly attributed to sudden and undue exposure to wet and cold, want of sufficient food, clothing, etc., but Baudeloigne says "that impure air is the great cause of consumption, and that hereditary predisposition, uncleanness, want of clothing, bad food, cold and humid air, are by themselves non-effective." Impure air is claimed by a great many authorities to be the cause of the spread of epidemics. In a room that is not well ventilated one person who has an epidemic disease will soon contaminate the air with the germs of that disease. The other pupils not having fresh air are not so able to throw off the effect of the injurious germ.

The effects of breathing impure air as considered so far are pathological. The effects of impure air have its pedagogical effects also. All observing teachers have observed the increase of headache as the day progresses, the restlessness of the pupils, the poor lessons, the bad order, and much of the trouble in the schoolroom can be ascribed to the breathing of impure air.

It has its economical effect also. It is impossible to calculate the economical saving by breathing pure air. The pupil can do more and better work in one hour by breathing pure air than in half a day in a room with impure air. Besides a great many of diseases are avoided and on the whole life is more cheerful.

The air that is exhaled consists chiefly of watery vapor, carbon dioxide and organic matter. Carbonic dioxide in very large quantities is a deadly poison. The general opinion is that this is the dangerous element in foul air, but specialists do not consider it so even in the most poorly ventilated rooms. In the rooms of breweries and rooms where soda fountains are charged, there is found a large amount of carbonic dioxide in the air and it does not seem dangerous. By experiment it has been found that people can stay without much discomfort where there are 150 parts of carbonic dioxide in 10,000 parts of air. It is estimated that in the normal condition of air there should be not more than six parts carbonic dioxide in 10,000 parts. LeBlanc has proved that a person could live without much danger where the air was 30%

carbonic dioxide. We all know that the air in a room that is not ventilated has an unpleasant odor. It has been proved by many specialists that the carbonic dioxide has no such odor. In a room that has been shut up for some time this odor will remain for some time after the room has been opened. It is the discharged organic matter that makes the air poisonous and leaves a bad odor in the room. According to Dr. Billings, there is no evidence that carbonic dioxide, in the proportions in which it is present, even in the worst ventilated rooms, is injurious.

It has been proved, or at least demonstrated, by many specialists that it is the organic matter in the air that is the dangerous element. The lungs and skin exhale a powerful poison. The quantity is very small from each person, but if there are several persons in a confined space, the air will soon be infected with this poison.

One of the important ways of detecting the impurities of the air, is by the odor. The impurity of the air is often estimated in relation to the amount of carbonic dioxide, for Dr. Billings says that carbonic dioxide is found in bad company if any is around.

It is the popular belief that carbonic dioxide gas is heavier than the other elements and hence sinks. The fact is that this gas obeys the law of the diffusion of gases. On examination it has been found that the amount of carbonic dioxide gas is substantially the same at the sea level that it is five miles above. If there are any impurities in the room they will soon diffuse throughout the room. Superintendent Marble cites a case of a schoolroom that was left sweet and pure in the evening and in the morning the air was found to be impure. On examination it was found that the air was diffused from a stratum of impure air in the cornice. The hydrogen sulphide gas is very poisonous, and even when mixed in small quantities with air is dangerous to breathe. If taken into the lungs, it robs the blood corpuscles of their oxygen and destroys them. This gas is given off from many organic substances when undergoing decomposition and from these sources it sometimes gains admittance to a schoolroom. It is plainly announced by its smell which is usually described as like that of rotten eggs.

The sanitary arrangement of the schoolhouse should be such as to preclude the possibility of any of the various gases of putrefaction derived from privies, sewers and urinals. The continued breathing of air contaminated with but a small admixture of gases from these sources has a debilitating effect and predisposes strongly to other diseases: scrofula, consumption, diarrhea, dysentery, diphtheria, typhoid fever, etc.

Children are more susceptible to these evil influences than adults.

Another element of importance is the humidity of the air. The standard varies according to the locality. European writers claim that the standard of saturation is from 65 to 75%, while in this country it is not higher, but in many localities it is less.

The amount of air space that should be allotted each pupil depends upon the facility of ventilation. The only principle that should govern this is, that there should be enough space so the pupil would have fresh air. If the system of ventilation required 5,000 cubic feet per hour to each pupil it should be provided. If the system could permit less it could be so arranged, or if it demands more it should be provided. The health of the pupil should govern the amount of money to be spent upon a school building.

For school buildings located in a city, or in a locality where a great amount of dust or soot is in the air, the air ought to be filtered before it enters the room. One system of filtering is by a damp screen formed of cords of horse hair and hemp. At various times this screen should be washed automatically by a flush tank of water. But in case a damp screen is used it requires some system of suction fan to draw the air through the screen. At various places the filtering of the air has proved very satisfactory. The advantage of dry filtration of the incoming air is that it causes less obstruction to the current than a wet screen, and consequently requires less area.

The subject of ventilating and heating school buildings is so complex that it is almost impossible to state any definite rules. There are certain principles to obey but the location will determine the application. Even the Smead system which has so much praise will prove a failure if it is not arranged to conform to the laws of the elements of that locality. After any system has been arranged it should then be managed by an expert.

The subject of heating and ventilation is so closely connected that it is almost impossible to consider them separately. At least it is more practicable to consider them together.

In heating we have the system of direct radiation where the heater is placed in the room to be heated. The indirect radiation is where the heater is placed outside of the room and the heated air is conveyed to the room.

In ventilation we have the natural system where the windows and doors are open allowing free movement of the air. Such ventilation is not practicable in this climate. The artificial ventilation is a system where the air is carried into the room other than natural, and also has its exit caused by some artificial source.

It is a disputed question as to what the temperature should be. It ranges from 55° to 75°. The nearest right, as far as I can see by considering all is about 68°. Uniformity of temperature in all parts of the room is greatly to be desired. This can be had if the room is properly ventilated. It is impossible to have such conditions of uniformity if the room is poorly ventilated. The difference in the temperature between the bottom and top of the room should be very slight. If the room is poorly ventilated it will require a higher degree of temperature to keep the pupils comfortable.

The location of the inlets and outlets depends upon the system used in heating and ventilation. It also depends upon the locality and the direction of the wind. The inlet should be so placed that the source of the air is where the atmosphere is pure. The size of the above depends upon the number of inlets and outlets and the size of the room. But in no case should they be located so that they will produce a draught over the pupils. To secure the best advantage, I do not think the inlet and outlet should be on the same side of the room. If such is the case, I fear that the distant end of the room will not be well ventilated.

The different systems of heating and ventilation; e. g., fire place, jacket stoves, furnaces and steam have each their advantages and disadvantages. A building can be so constructed that it can be heated and ventilated by either of the above named systems. The questions to be considered in making the plans for a building are the systems that will be used, and the local conditions; then plan the building to suit the system and the environment.

After the building has been built so as to give the best results it should be managed by an expert. Many good systems prove a failure for the reason that they are not managed right.

In building a schoolhouse no money should be spared in securing good ventilation and heating. In the end it is far more economical to have a good system than to save money in building by obtaining a poor system of heating and ventilation.

The questions of cleanliness and school baths are an important factor in the sanitary conditions of the school.

The rooms should be kept clean. The dust and organic matter that collect in a room become very injurious to the health of the pupils. In the interest of morals, too, cleanliness is imperative.

Dr. Cohn thinks that in the future dry sweeping will be abandoned, and the room will be daily washed by a weak solution of corrosive sublimate.

At the present time a great many of the evils of dry sweeping can be avoided by using moist sawdust or other make-shifts. After the room has been swept, the desks and other furniture of the

room should be well dusted with a moist cloth. The windows ought to be washed once each week and after a long vacation the walls should be lime washed.

The children should be made to keep their hands and faces clean, and should be taught to use brushes on their clothing. The most effective means for insuring cleanliness of the pupils seems to be the introduction of school baths. The reports from schools where baths have been introduced are uniformly favorable. The bathing is usually voluntary and is generally approved by the parents. At first the children seem to have a mania for bathing. After bathing the children return to the schoolroom with their minds refreshed. There is an improvement in the air of the schoolroom. Bathing has an educating effect upon the children in giving them the sense of cleanliness.

It has its reactionary effect upon the parents. They will take an interest in the condition of the underclothing of the children and the cleanliness of their person. In many cases where this system is in practice the health of the children has been greatly improved. The first cost is not very great and it is only a slight expense to maintain a system for bathing. By improving the health it saves money for the tax payer. When an unclean and clean child are compelled to associate as is the case in the school, the unclean child will endanger the health of the clean child.

The privies and waterclosets are often the sources of many of the sensuous habits among school children. If buildings are required for this purpose they should be at a reasonable distance from the school building. A separate building for each sex and a proper approach made to each should be provided. Where the modern systems can be used it is convenient to have them in the school building, but the department for each sex should be placed in different portions of the school building.

They should at no time be so constructed that the odors and gases from these rooms can escape into other portions of the building. They should be well ventilated and kept clean. The teacher of the school should see that the janitor attends to his duty in regard to these conveniences.

As has been mentioned in several places in this paper none of the sanitary and hygienic conditions of the school building will regulate themselves no matter how well they are constructed. They should be regulated by a man who understands his business, and the teacher should see that he does his duty.

JOHN A. SHAFER.

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Want of care does more damage than want of knowledge.

METHOD IN ARITHMETIC.—XVII.

ILLUSTRATIVE LESSON: THE BEST QUESTION.

Teachers find the art of questioning very difficult. They must organize their questions before the recitation. They frequently lack organizing power, and are often unable to anticipate conditions.

They do not always consider carefully what they have at hand. They ask too much or too little, or in a wrong order. Any such mistake has a harmful effect; it hinders orderly activity and growth. Teachers must learn to know the next required activity and choose their questions to stimulate that activity. This is too true in arithmetic.

To form an organic and definite series of questions bearing on a lesson whole and providing for emergencies, is no easy task. It requires earnest and faithful thinking antecedent to the recitation, and watchful earnestness in its progress.

To aid somewhat in this matter, the following illustrative exercise is given:

I. THE SUBJECT-MATTER.

This assignment was made to a class of twenty-five students:

A man sold thirty-one calves at \$7 each, and twenty-seven calves at \$8 each.

What questions may be asked? Which is the best one? Why?

II. THE QUESTIONS ASKED.

These represent the kinds of questions reported the following day:

1. How much was received for all the calves?
2. Which "bunch" of calves sold for the greater sum of money?
3. What processes may be used in finding the cost?
4. What was the average cost of the calves?
5. What did the first "bunch" cost? What did the second cost?
6. What per cent. of the greater cost was the smaller?

The questions are given in the order in which they came in the recitation. Most of them were variously worded, and the wording was examined for the best form.

III. PRINCIPLES OF GUIDANCE DEVELOPED.

1. The question shall be determined by the purpose of the teacher as to topic to be emphasized.
 2. It shall require the use of the whole problem, all its conditions.
 3. It shall seek the fullest activity of the class, for which they are ready.
 4. It shall vary with the grade of the class.
- A question which can be answered by using only

a portion of the data is rarely a good question. If the data are many, the problem is usually out of grade. Sometimes it is well to use such a problem to call for that sort of discrimination on the part of pupils. It is another form of association.

The harmony of the question with the purpose in hand is vital. The question cannot then be aimless, "to fill in the time." It will push toward the central thing in the assignment, whether it be a process, a definition, or a principle.

The fullest self-activity should always be sought. A question easily answered, as a rule is non-educative. It inspires surface work, and a tendency to lightly regard the subject-matter of the lesson. But this activity must be the next in order. It can not come by leaps. The questioner must know what has been done and what may be done. The adaptation of a question to the grade, as a principle, is not difficult to see. To secure such adaptation requires exceedingly careful thinking on the part of the teacher.

IV. ADAPTATION OF QUESTIONS.

In the light of these principles the questions were examined and these conclusions reached:

1. If the teacher is wishing to emphasize multiplication and addition, the first question is the one desired. It requires the use of all the conditions and calls for the fullest self-activity in the pupils.

2. If multiplication and subtraction are the processes, the second question is good. It also uses all the conditions and requires a high degree of self-activity.

3. If the teacher is trying to lead pupils to recognize the processes needed in the solutions of problems, the third is excellent. It requires each child to form the question that will require all the conditions in its answer, and to decide upon the processes to be used in reaching that answer. It allows for a difference of views and demands independent thinking.

4. If average or percentage is the topic, then four or six will meet the requirement.

But these questions will vary with the class using the problem.

Pupils in the third or fourth year can easily answer the first and second questions; indeed a bright second year class can do so.

The third question will require well-trained fourth-year pupils or those of a higher grade. Number four is not a good question for any grade. It is too simple. It does not unify the problem but deals with its parts separately. If the two parts must be used in this way the children should have a problem differently worded.

Questions four and six are certainly for older

pupils. A sixth-grade class might answer them. Ordinarily pupils of this grade are not prepared for such work.

V. SOME COMMENTS.

The teacher must know her pupils, their knowledge and power. She must know her purpose in the problem. She must study her problem in the light of her pupil and her purpose, and formulate her question to secure the greatest self-activity of the child.

She need not always make the question herself. It is an excellent plan to allow children to ask their own questions and to answer them.

In the discussion of these questions and answers they must go back to the problem for guidance to the best question. Children soon learn what kind of thinking is of most worth. In such an exercise they think both sides of the problem and arouse an interest that will carry them steadily forward to good results.

The child feels that he is setting his own tasks and is an instrument in his own education.

SAMUEL E. HARWOOD.

CARBONDALE, ILL.

SCIENCE IN THE TEACHING OF ENGLISH. XIX.

COMPOSITION.

THE THOUGHT SIDE OF COMPOSITION WORK.

What should be the chief aim of composition work in the grades? What purpose should the teacher hold in mind constantly in the work? This is an important question, because upon the answer to it depends the character of the work which the teacher will do in composition.

I will ask the reader to recall the thought of the article in *THE INLAND EDUCATOR*, Vol. III., Nov., 1896, on the subject: "The Threefold Purpose of Primary Language Work." Primary language work should contribute to mind growth; it should prepare for higher language studies; it should give the child the mastery of his mother tongue as an instrument in expressing his thought.

These three purposes are accomplished in some degree by good composition work; in fact, there is no line of language work better adapted to serve as an instrument in accomplishing these ends. But the composition work is particularly suited to the accomplishment of the purpose last stated, or rather, we may say, that in arranging the work so that this purpose will be accomplished, the other two ends will be best achieved.

This line of work will make the pupil more accurate in his observations; in constantly noticing expressions, comparing and contrasting them, and selecting the most appropriate one to express his

thought, he will gain power to weigh and consider and make nice distinctions in thought; by noticing how skillfully thought is expressed in language in gems of standard literature which he considers in this work, and by striving in like manner to express his own thought in language, he forms a literary or artistic taste; by fixing upon a purpose and striving to find means for the accomplishment of it and, then, trying to embody this purpose in a selection, he learns to reason and to adapt means to ends. These are valuable qualities of mind and the child could be given no better preparation for the study of literature than is herein indicated; but after all, the main good to be accomplished by the work is to give the child the ability to express his thought accurately and appropriately in language; in doing this, the other results will be obtained.

No composition work can be considered successful that does not give the child the ability to write printable English. Let the teacher hold in mind as the main result to be attained by this line of work, the thing to be kept uppermost in mind, toward which all energies are to be bent, and for which every exercise is to be planned, the following ideal: *I wish my pupils, as a result of their composition work, to be able to take a subject, think the thought of it carefully and accurately, organize that thought about a purpose, and express it accurately and appropriately in a paper of printable English, neat in form, properly punctuated, capitalized, paragraphed, and with no misspelled words.* If the teacher can obtain this result, she need not worry about the other two ends to be attained.

Perhaps this ideal is too high. Perhaps it is too much to expect that the child at the close of his eighth grade work shall be able to write three pages of printable English. Judging from the results of the language work now done in the public schools, this ideal is too high. Children in our public schools at the present time, as a rule, cannot do this. Graduates of our high schools cannot do this, as a rule. We receive into this school every year near two hundred graduates of high schools. I take it for granted that they are average graduates of the high schools in the state. Many of them are from the best schools of this kind, yet it is the exception, and not the rule, to find among these, students who can write such a paper as that described above. Still I think this ideal is not too high.

As I have said in previous articles,* the language work in the schools is as well done as could be expected under the circumstances. The teachers are conscientious, as a rule, they work hard and do their best. But we might as well admit that the

results from our work in language are far from what we desire. There is no benefit to be derived from flattering ourselves and trying to make ourselves think that our language work is perfect or anything near it, while we get such miserable results from it. It is a notorious fact, and it is a shame, that pupils pass through the eight grades and take four years of work in the high school and come out unable to talk five minutes without murdering the English language—unable to write a really readable letter or a short paper of printable English. How to remedy these evils and how to plan the composition work so that the ideal set forth above may in a greater measure be realized, will be the burden of this and other papers on this subject.

MUCH WRITING NECESSARY.

Composition is like penmanship; there is an art side to it and there is a philosophy or science of it. In penmanship, the pupil must be shown and told how to make the letters. He must have models set before him and he must study these, analyze them and see how they are constructed. But the child may know all the lines and curves necessary to produce the letter *a*; he may know just how these lines and curves should be joined; he may have in mind a perfect idea of the letter when it is completed; yet he cannot write the letter *a*. He must practice, and he will make a great many failures, but finally, if he perseveres, after many trials and many errors, he will be able to write.

It is even so in composition. The analogy is not perfect in every particular, for in penmanship the process is in large measure mechanical, the muscles must be trained and muscular habits fixed, while in composition the process is not mechanical, it is the mind that must be trained and mental habits must be fixed. But the mere knowledge of the principles which underlie description, the mere analysis of a piece of this kind of discourse, merely knowing how such discourse is constructed, will not enable the pupil to write description, any more than the mere knowledge of how to construct the letters will make him a good penman.

Ease, grace and skill in writing discourse come only through much patient and pains-taking practice. One reason why the results of composition work in the public schools are not satisfactory is that the pupils do not write enough. Beginning with the third year and continuing throughout the school course, children should write compositions. Let them write as often as the teacher can find time to properly supervise the work as indicated in the last article. This close supervision of the work on the part of the teacher is absolutely essential. But the teacher should see to it that time

*See THE INLAND EDUCATOR for July, 1896, p. 329.

be taken to have the pupils do at least the minimum amount of work in this line and teachers should constantly keep pressing school officers for more time to devote to it. Beginning with the third year and continuing throughout the school course, one paper in every two weeks, if it be properly corrected by the teacher and rewritten by the pupils, will do much in this line and no teacher should be satisfied with less actual practice in writing on the part of her pupils. In regular composition classes in high schools and in the grades where teachers have more time, more writing can be done.

THE NATURE OF DISCOURSE AS A WHOLE.

The children in the grades are not to be burdened with definitions, principles, and laws of language. It matters little whether or not the child at the close of the eighth year be able to define description, style, diction, figures of speech, etc. He may not be able to state the law of selection or discuss intelligently the relation of purpose to discourse. The main thing with him is to be able to express his thought well in language. But in order to lead him to do this skillfully, the teacher must have in mind the facts of composition; to her the organization of the subject must be clear; she must see the relation of purpose to discourse, the divisions of the subject, and the laws which govern or the principles which underlie the construction of each form of discourse. The teacher must know these things not for the purpose of teaching them to the children, but in order that she may consciously and intelligently lead the pupils to write discourse in obedience to its nature and the laws which govern in it. And the children who are taught by such a teacher in the grades will not be entirely ignorant of the thought side of discourse. It will be a kind of unconscious knowledge on their part, but when they pass on into the high school, enter the composition class and work out the law of method, for example, they will be prepared to do it easily and to understand it, because they will see that in all their work in the grades they were writing discourse in accordance with this law but they had not named and stated it formally.

The teacher must see clearly first just what one does when he writes discourse in order that she may lead the pupils to take the necessary steps. What does a writer do when he composes a selection? How does he go about it? If you were asked to write a paper for your next teachers' meeting, what would you do first, second, third, etc.? What did Emerson do when he wrote his essay on "Nature"? What did Shakespeare do when he wrote one of his plays? Can we analyze such

an act? If we can, we can then see what to try to lead the child in the third grade to do first, second, third, etc., always remembering, of course, that the child is just beginning to write and that the work must be made very simple for him.

THE IDEA TREATED.

Before one can write, he must have something about which to write. Before Whittier wrote his "Snow Bound," he must have thought of his home life and all the incidents connected with it which he so beautifully weaves into his poem, and he must have made up his mind to write a poem about this idea. Before Ruskin wrote his essay on "Work," he must have seen some incidents of the struggle between capital and labor and made up his mind to write an essay on this great question—the labor problem. Before you begin writing your paper for the teachers' meeting, you determine to write about compulsory education, or school discipline, or correlation.

The idea treated is often suggested to the writer by some incident which falls under his observation. A writer of true discourse or literature does not go around hunting for ideas about which to write. Some incident of oppression or cruelty falls under his observation; some bit of beautiful scenery comes to his notice; some pitiful story reaches his ear, and he connects with each a train of thought which he expresses in his selection. A visit to Westminster Abbey causes Irving to write about the great building; a water-fowl, flying over Bryant's head gives him a subject for a poem; the history of the Acadians gives to Longfellow the subject of *Evangeline*, etc.

But this idea about which an author writes must be interesting to him; it must be suggestive; it must unify his thought. In selecting the subject for your paper before the teachers' meeting, you will not, if you are wise, and if you want to write a good paper, take a subject in which you have no interest and about which you have no opinions. You must know something about the idea which you are to set forth, if you would write discourse worthy the name, and you must really have an interest in expressing it. This is a fundamental condition in writing. Here, again, a vital mistake is often made in the composition work in our public schools. Pupils are asked to write about subjects about which they know little or nothing and in which they have no interest. Imagine children in the grades discussing such subjects as "Justice," "Truth," "Beauty," etc., and that too without any assistance from the teacher in organizing the thought! And it is almost as bad to ask them to write about such ideas as "the cow," "the horse," "the dog," etc., because the information

which they have on these subjects is commonplace and they have no interest in expressing it.

No, that about which the child in the grades writes, must be an idea about which he has something to say, some serious thought which he considers worth while to express, and in which he is interested. The idea treated is that idea which suggests everything to him; it is the origin of all his thought; it unifies his thought. The teacher must see to it that the child has it before she asks him to write. In a later paper, under means to be employed in inducing the child to take these steps, I wish I suggest devices by which the teacher may interest children in subjects and thus furnish them thought to be embodied in compositions.

J. B. WISELY.

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS.—XIII.

BANKS.

The Functions of Banks.

a. A bank is an institution for the handling of money, and the simplest service which it renders is to furnish a safe place for the deposit of money. It would be a great risk for business men to keep, in their possession, all the money they use in their business. It is much better for them to place it in a bank and draw it out as they need it from day to day. The banker is willing to assume the care of the money deposited in his bank, in return for certain privileges which he has with it while it is in his possession. Some banks will even pay the depositor a small interest on his money provided he will allow it to remain in the bank for a definite period.

When one deposits money with a bank he is given a deposit slip stating the amount of money deposited. If it is one who does much business with the bank he is given a small book in which the proper bank officials will record the deposits as they are made. These become receipts for the money deposited.

A depositor may draw out of the bank all his money or any part of it at any time, by presenting at the bank a check for the amount desired. The bank will furnish blank checks but the depositor must write on the check before presenting it the date, the name of the person to whom the money is to be paid, the amount to be paid, and his name. Some checks have the words "or bearer" or "to the order of" printed on them. Any one presenting a check with "or bearer" on it may draw the money; but a check having "to the order of" on it must be indorsed, by the person to whom it is made payable writing his name on the back of the check.

b. Banks are safe and convenient agents through which to pay debts.

It would be unsafe and inconvenient to carry about the money needed in every case of exchange.

Those who have much business to transact prefer to deposit their money in a bank and pay their debts by giving checks payable to their creditors. For example: A, who has his money deposited in the bank, buys a bill of goods from B, a horse from C, and wagon from D; instead of carrying enough money to pay for these he gives B, C, and D each a check for the amount due to each. B, C, and D can now draw the money or deposit their checks and then secure the right to draw it at some future time.

Banks further assist commercial exchange by enabling us to pay debts at great distances by a system of drafts. The manner of doing this was explained under Exchange and need not be again described.

c. Banks usually have, in their vaults, more money than it is necessary to keep on hand and this they loan, for short periods, to any one who can give good security. One desiring to get a loan from a bank may do so by getting his friends, (usually two are required), to sign his note as security or he may deposit with his note "collateral securities" such as bonds, etc.

d. Some banks have the right to issue money. This will be explained under "National Banks."

Kinds of Banks.

The principal kinds of banks in existence at the present time are—National, State, Private, and Savings banks.

A National bank is one organized under the National Banking Act and is under the supervision of the Federal Government.

A National bank may be organized by five or more persons. Before they can begin business they must secure a certificate from the Comptroller of the Currency. To do this they must certify to the Comptroller the name of the association, the place where the business is to be conducted, the amount of capital stock and the number of shares into which it is divided, the name and residence of each shareholder and the amount of stock held by each, etc. The company must also buy United States bonds of the par value of the capital stock and deposit them with the Comptroller. If this officer, after he has examined into the matter, is satisfied that the company is lawfully entitled to commence the business of banking he will issue it a certificate showing that the bank is authorized to do banking business.

In return for the bonds deposited with t

Treasury, the Comptroller of the Currency shall issue to the bank, circulating notes to the amount of ninety per cent. of the par value of the bonds deposited. When these have been signed by the president and cashier of the bank, they may be circulated as any other money, and shall be taken for all debts except duties on imports and interest on the public debt.

Any one possessing one of these bills can take it to the bank issuing it, or to the United States Treasury, and exchange it for United States notes, gold, or silver. In order to do this the bank must keep on hand a sufficient amount of lawful money to meet this demand and also deposit with the Treasury lawful money to the amount of five per cent. of its notes in circulation.

The purpose of the government in requiring the National banks to deposit bonds, is that it agrees to redeem the notes of the bank and holds the bonds for security. Should the bank fail to redeem its notes, the government could sell the bonds and with the money redeem the notes when presented. No one has ever lost any thing by having a bank bill in his possession when the bank failed.

State banks are organized under the banking laws of the various states.

The process of organizing a State bank is very similar to that of organizing a National bank.

State banks have the same functions as National banks excepting the right of issuing money.

Private banks exist in all the states. They exercise all the functions of a bank except the issuing of circulating notes.

The safety of these banks depends upon the financial standing and honesty of the proprietors.

The manner of organizing a private bank is not greatly different from that of starting any other private business.

Savings banks are usually established as benevolent institutions to enable persons of moderate means to save some of their earnings. To accomplish this, they receive smaller sums on deposit than other banks.

In many countries, savings banks are established by the governments, in connection with the post offices.

The only functions which they exercise are to receive and loan deposits. The depositors share in the profits arising from the interest received on the loans.

Liabilities and Resources.

The liabilities of a bank comprise the various items for which the bank is responsible, and the resources of a bank are those from which it may meet its liabilities.

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are: Capital Stock for which the bank is responsible to the stockholders; deposits due individuals or other banks; profits held as a contingent fund or unpaid dividends but due the stockholders; and circulating notes issued and which must be redeemed,

The resources are:—Loans which will include its outstanding notes and other securities which mature from day to day; United States bonds, which were deposited with the Comptroller of the Currency; stocks owned by the bank as investments; balances due from other banks through exchange; cash held as reserve; and real estate or other property that might be taken to satisfy the liabilities.

Profits.

The profits of banks are derived from various sources, the principal ones of which are:—interest on the bonds deposited with the Comptroller of the Currency; discount on loans; premiums on exchange derived from a percentage sometimes charged for drafts and bills of exchange; and commission, or a percentage charged for collecting claims which have been placed in the hands of the bank for collection.

There will be but little trouble in getting pupils to understand the organization and at least the simpler operations of a bank. Almost all have access to one or more kinds of banks and the officials will readily give necessary information. The various blanks used by banks can easily be secured; and the manner of filling them out should be explained. Procure a National Bank note and read what is printed on it. The National Banking Laws and the State Banking Laws should be studied.

I. M. BRIDGMAN.

POLO, ILL.

As never before, Child-Study has acquainted the teacher with the complexity of a child's physical and mental constitution; has magnified his concept of the child's individuality, and emphasized the necessity of adapting instruction in both matter and method in conformity with it, and has brought him into more tender, loving sympathy with the child. It has also quickened within the teacher a more tender conscience, a more exalted ambition, and a keener sense of his powers, limitations, opportunities and responsibilities; and, best of all, it has inspired him with a deep and hallowed reverence for the little lives entrusted to his care, and has engendered in him an insatiable thirst to implant within every growing breast the sacred ideals of highest manhood and noblest womanhood.

—A. S. WHITNEY, in *The Child-Study Monthly*.

OUR LEGAL DEPARTMENT.

R. D. FISHER.

COMMON SCHOOLS.

I. DEFINITIONS.

II. TEACHER.—1. *Qualification and Certificate.*2. *Contract.*3. *Compensation.*4. *Discharge.*

1. *Definitions.*—A common school is an institution of learning of a grade below that of a college, academy or university. In law the term refers to the common or public schools existing under the laws of each state and maintained at the expense of the public. Schools for instruction are of two kinds—those which are maintained by private means, and common or public schools. (*Bourier Law Dict*; 71 Cal. 631.) Common or public schools are schools supported by general taxation, open to all of suitable age and attainments, free of expense, and under the control of agents appointed by the voters.

"The phrase 'public schools' and 'common schools' has acquired under the legislation and practice of the several states a well settled significance. The broad line of distinction is that they are supported by general taxation and open to all free of expense. The words 'common' and 'public' are synonymous, and used interchangeably when applied to schools. So held by the highest courts of Indiana, Massachusetts and Missouri.

What Are Not Public Schools.—A normal school is not a public school within the meaning of the statutes. It is true that in an enlarged sense normal schools are public schools, inasmuch as any citizen of the state possessing the requisite qualification may be admitted to them. In the same sense colleges are public schools, but clearly they are not embraced in the term. 45 Hun. (N. Y.) 19.

A school kept by a church society, or by an orphan house open to the poor children, though supported by the public are not "free public schools." 21 S. Car. 435.

Origin.—The free public school was of New England origin, and was first established in Massachusetts. 2 Kent. (Com. 196; 103 Mass., 94, and 11 Cush. (Mass.) 178.

II. *Teacher.*—A teacher of a common school, means a teacher in the free common schools of the state established by law. 11 Ind. 520.

1. *Qualification and Certificate.*—A teacher in the public schools must obtain a certificate of his qualification before entering upon his duties.

Teaching without license, though employed for such purpose, does not entitle the employe to compensation. (26 Ind. 337; 15 Ill. 65.) Although a teacher has not obtained the statutory certificate, his authority cannot be contested by the pupils or their parents. The school officers alone can raise the objection. But the requirement is mandatory in nearly all the states and cannot be waived. The highest order of talent and ability is not required of a teacher, but whatever he possesses, the certificate is *prima facie* evidence of his capacity to teach; and though it may be overcome by a proof of incompetency, it cannot be impeached in an action brought by a teacher for salary due. (36 Ill. App. 653.) And in that case it was held that a teacher holding a certificate and suing for his compensation could not be asked the question, "what would 3½ lbs. of butter cost at 11½ cents a pound?"

A Certificate Cannot be Attacked Collaterally.—A teacher's certificate cannot be invalidated by proof that no personal examination of the teacher was had, in a suit for services. The certificate being in the nature of a commission cannot be attacked collaterally. But a contract for the employment in a public school of a teacher who does not hold such a certificate, is generally void; and for services rendered under such contract, an unlicensed teacher cannot recover. (*Putnam vs Irvington* 69 Ind. 80; *Butler vs Haines* 79 Ind. 575; 26 Ind. 337.) The Supreme Courts for Minn., Ill., N. Y., Ia, Me., Mich., N. H., N. Dak. and Tenn. have also ruled negatively on this question. Where money has been paid to a teacher who did not have the statutory certificate of qualification, it cannot be recovered from him or set off in a suit by him for wages due at a term when he had such certificate. *School Dist. vs Estes* 13 Neb. 52.

A warrant issued to a teacher who had not the certificate required by law, was held to be void and non-negotiable, in the case of *Bank etc. vs Township* 1 N. Dak. 26.

The contract is not ratified by the subsequent issuance of the certificate to the teacher. (69 Ind. 80; 79 Ind. 575; 71 Ill. 532 and 12 Minn. 448.) The Vermont Supreme Court (46 Vt. 452.) has held that when a teacher entered upon the duties of a teacher without a certificate and afterwards received one and continued the school with the consent of a prudential committee, that an implied contract arose for future services, and the fact that the express contract was void, did not render void the implied contract. The same Court (28 Vt. 575) held that the reception of a certificate on the evening of the day on which the school opened was a substantial compliance with the statute requiring a certificate to be obtained before the co

mencement of the school. And where the teacher had a certificate at the commencement of the school it was held that she might recover for her services, though the certificate expired before the end of the term. 34 Vt. 270.

Where a teacher's certificate is withheld through inadvertence his title to compensation is not impaired. And for maliciously or wantonly revoking or withholding a teacher's license the superintendent is liable in damages. *Elmore vs Overton*, 104 Ind. 548; *Lore vs Moore* 45 Ill. 12.

It is not necessary that the teacher should show actual hatred or ill will upon the part of the superintendent, for he will be held to have acted maliciously where he acts either from willful and wicked or from corrupt motives. *Elmore vs Overton*, *supra*. In an action to recover for breach of a contract or employment brought by the teacher, it is not necessary to aver in the declaration that the plaintiff had procured the proper certificate of qualification. *Dogon vs School Dist.* 35 Vt. 520.

In Maine it was held that if a teacher actually performed the services contracted for by the regular authorized agent of the school, this was *prima facie* evidence which entitled him to the stipulated compensation, and it devolved upon the District to prove the want of the requisite certificate, 20 Me. 154.

In *Ellis vs Sharp* (42 Hun. 179) the New York Supreme Court held that it is not necessary for a teacher to allege in an action brought to recover wages that he was a qualified teacher. If the plaintiff was not qualified, this fact should be alleged in the answer.

This rule, however, is not universal. In some states a teacher suing for wages must aver that he not only possessed the proper certificate of qualification but that he exhibited the same to the trustee, directors or board. (39 Ill. 101; 27 Minn. 433.) To entitle a teacher to recover under a contract to teach, in a case where the directors refused to allow him to teach, he must prove or offer to prove possession of a certificate authorizing him to teach at the time of his employment. (87 Ill. 255.) But the fact that a teacher had no certificate is not a defense to an action brought by him against persons presenting a groundless and malicious petition against his appointment to a school. 69 Pa. St. 103.

2. *Contracts.*—In general the school directors, trustees or school board are authorized to employ teachers in the manner prescribed by law. (42 Ind. 200; 10 Kans. 283.) But the individuals composing a school board have no power to contract or hire

* except when they are contract made by them subsequently

fully approved or ratified when legally in session, is invalid. *Milford vs Powner*, 126 Ind. 528.

A contract between the president and secretary of the board and a teacher without the concurrence of the board has been held invalid in Pennsylvania where the law requires that the teacher shall be selected by the school board. (89 Pa. St. 395.) If the school board, in session, hire a teacher, the contract with him may be signed at different times; and a signing by a majority of the trustees is sufficient. (*Milford vs Zeigler*, 1 Ind. App. 138.) So also, in 46 Conn. 400; 52 Ark. 511; 61 Mich. 290; 39 Minn. 499. There must be a ratification. The members of a school board cannot, by a prearrangement or contract entered into when not in session, bind themselves afterward to ratify or confirm any contract or engagement thus entered into. (29 Ohio St. 419.) The distinction here is that while a board, in session, may ratify a contract made out of session, they cannot individually bind themselves to do so.

The statutory regulations as to the manner of the formation of the contract must be complied with. If a statute requires that the contract with the teacher shall be in writing, specifying the length of the time school shall be taught and other matters, this must be done. (40 Iowa, 444.) But in Kansas, (47 Kan. 362,) it was held that although the statute required teacher's contracts to be in writing, the teacher who performed services under an oral contract was entitled, not to the stipulated price, but the reasonable value of the services actually performed.

Contracts for teaching may be made by the proper school officer or officers to extend beyond their own term of office, if the contracts are made in good faith and not for the purpose of forestalling the action of their successors. So held by the Indiana and other State Supreme Courts. And even if the intention of the old board is to forestall their successors, if the teacher is innocent of such illegal intent, the contract with the teacher is not avoided. A teacher's contract with a *de facto* school officer is valid. 126 Ind. 528; 58 Hun. (N. Y.) 608; 74 Me. 462.

A contract with a teacher to teach cannot be annulled by abolishing (or uniting) the school with another he was to have taught. (1 Ind. App. 138.) When a teacher is selected and employed the contract is for the personal services of the teacher so employed, and he cannot fulfill the contract by hiring a substitute, however competent. 88 Ill. 563.

In Kentucky the duties of school trustee and teacher are incompatible, and if a trustee is employed by his fellows as teacher, he thereby vacates his office. 3 Bush (Ky.) 255.

Sec. 4444 Rev. Stat. Ind. denies the right of a trustee to contract with himself to teach in his township, and Attorney General Woolen held that he could not lawfully do so.

INDIANAPOLIS, IND.

[TO BE CONTINUED.]

AS TO TEACHERS, MUSIC AND POETRY.*

It stands to reason that an intelligent teacher of an inquiring turn of mind, plus Normal, University, or any special training, should be amply able to present any subject required in the graded schools in a pedagogical manner. It does not always follow that every subject will be presented with the same ease or confidence, nor yet, that results will always be of the best, whether the subject is one for which the teacher has a special inclination or not. The school teacher in the grades must not be a specialist, except in the same sense that the medical man in general practice is a specialist—he must know every line of his work, and must be a specialist in each. In other words, the teacher must teach every subject as if each is the one he greatly prefers to teach. “But I have had little or no opportunity to study music, and I can’t teach it as I know it should be taught,” says one. What did you do when physics was added to a day brim full of work?—or physical culture? or drawing?—or any one of the numerous subjects added within the last five years? If the walk, carriage of the head and shoulders, use of hands and arms, and general movements of a company of teachers are any indication of their fitness for certain work, I should at once decide that they were able to present any subject better than that of physical culture. Yet we hear very little complaint in regard to teaching physical culture as compared with the prolonged wail that goes up when teaching music is mentioned. Again, if the handwriting of some teachers is to be taken as an indication of their ability to teach drawing and penmanship, then they are much better qualified to teach any other subjects, certainly, else they could never have secured a license. Is it that your voice is poor and you know it? Think what your world would suffer if you didn’t know it, and be comforted. Is it that you don’t know more than enough of music to make a beginning? Be comforted again, because the true teacher must be a learner—and since you, doubtless, know a great deal of other subjects, you might soon get out of the habit of learning, were it not for the fact that you must study in order to keep the music work moving along properly. If there is any one thing that can be dispensed with in teaching music, experience shows that a fine voice is very often that

one thing. We should cultivate and refine our voices as much as possible, but our success as teachers does not depend upon the quantity, quality, or compass of our own voices so much as upon our ability to recognize desirable qualities in the voices of our pupils, and to use properly the material we are to teach. I consider the *Natural Course* one of the best arranged for the use of the regular teacher with or without an extensive knowledge of the subject, but possessing the true teaching ability. The explanation of the use of the various chart series is so explicit that the same amount of preparation given to the music lesson that is habitually given to other work cannot fail to bring success. Every point is explained at the right time and in the right way, useless and elaborate definitions having no place. The summing up at the bottom of the page of the various signs introduced is helpful alike to teacher and pupil, and is a feature peculiar to the *Natural Course*. I do not know whether there is a manual for teachers’ use published in connection with the *Natural* books and charts or not, but most of the points are so clearly expressed, and the material so well adapted to the needs of the average school and teacher, that there is really no pressing need for one. In schools where music is a regular subject, usually a special teacher or supervisor is provided to direct the work, but after all, good results depend largely upon the regular teacher. With good material, such as is provided by the authors of the *Natural Course*, and careful preparation for the music lesson, there is no reason why good results should not be the rule instead of the exception.

Rote singing must, of necessity, enter largely into the musical life of the school, and upon this point volumes might be written. The words of many of the songs used in the schoolroom are simply atrocious. Happily, teachers are becoming awakened to this fact, and there is a demand for the pure and elevating in poetry, as well as music. The sentiment may be adapted to children, yet the expression of that sentiment be simple and artistic. Recent authors have given to the world so many beautiful poems for children that there is really no excuse for using indifferent poetry in the songs for the schoolroom. Evidently the authors of the *Natural Course* have given that part of their work most careful consideration, as a perusal of the index of each book will show. Many artistic settings of dainty, child-like verses are to be found scattered throughout the readers. In the primer the “Tip Toe Song” will be a favorite, as will “Sleep, Dolly, Dearie!” with the girls, while the boys will prefer “The Little Horseman.” In the second book, “The Song of the Waves,” “Where the

**Natural Music Course*. American Book Co., Cincinnati.

Blue Hills Rise," "A Spinning Song," "The Golden Boat Song," "May," and many others are beautiful examples of the artistic union of poetry and music—and so it is throughout the series. The story of the poem has been properly treated in the selection or arrangement of the music, and the word-pictures as well as tone-pictures are of value in themselves—doubly valuable when combined. Taking it all in all, the Natural Course in music is well calculated to advance the cause of music in the schools; to cultivate a taste for the classics, to make music readers of the children, and to make music teaching in graded schools by the regular teacher less of a bugbear than it has been in years past.

CARRIE B. ADAMS.

TERRE HAUTE, IND.

STATE DEPARTMENT.

[Many of the letters written from the Department of Public Instruction in answer to questions relative to school matters in different parts of the state are of general interest. We feel that the teachers should be in close touch with this department and we have arranged to have transcripts made of all important letters written and circulars issued and shall present them to our readers each month, under the head, "State Department."—Eds.]

Dog Funds. Your favor of Feb. 11th is at hand. In it I find the following: "The Township Trustee of German Township has a surplus of dog money of \$600, which he intends to transfer to the school fund. The town of Bremen is located within the said German Township, but is incorporated, and paid about 25% of the dog money which the Township Trustee received and is included in the \$600.

Now, in case of the transfer of the money, is the town School Board entitled to its pro rata; or would the same belong all to the township?"

The case of Taggart, Auditor, et al. vs. the State, ex rel. Williams, in which it was decided that the surplus dog fund in the hands of a Township Trustee should be distributed among the school corporations in the township in proportion to the school population of each corporation at the time when such fund should be distributed, is a parallel case to yours. This was an action brought by the Treasurer of a school board of the City of Indianapolis against the Auditor of Marion County to obtain a mandate requiring said Auditor to distribute the surplus dog funds which had, on the first Monday of March, 1891, been paid to the Treasurer of Marion County by the trustees of the several Townships of the said County and requiring that the Auditor should issue to the Treasurer of the School Board a warrant for the portion of such surplus fund which should come to the City upon a distribution of the fund. The decision was

given, as above, to the effect that the Township Trustee should distribute to all of the school corporations, including his own, on their pro rata share of the surplus dog fund in his hands in proportion to the school population in all corporations.

Yours very truly,

D. M. GEETING.

* * *

Examinations. The questions in Guizot's History of Civilization for the February, March and April examinations, will be based on the *fourth*, *fifth* and *sixth* Township Institute Outlines respectively.

For the same examinations, the questions in the Science of Education will be as follows: February, McMurry's General Method; March, McMurry and DeGarmo; April, not confined to any particular text.

For the six examinations beginning with May, 1897, the questions in "General Culture" will be based on Guizot's History of Civilization, covering one of the Township Institute Outlines (1896-7) at each examination beginning with the first.

For the same examinations the questions in reading will be based on Tompkin's "Literary Interpretations," covering one of the Institute Outlines at each examination.

The questions in the "Science of Education" for these examinations, will not be based on any particular text.

It is suggested that County Superintendents urge all teachers to take the examination in the Teachers' Reading Circle books on the third Saturday in July. A passing grade in these subjects will exempt the applicant from examination in the "Science of Education" and "General Culture" for county license. Passing grades for four years exempt applicants from examination in these subjects for professional and life licenses. The above instructions apply to the primary examinations.

Very truly,

F. A. COTTON,

Clerk of State Board of Education.

Professor Scripture of Yale is making "hilarious sport" of the child-study movement of Dr. G. Stanley Hall, Professor Earl Barnes, and others, characterizing their work as unscientific. It is evident that there is to be much interest in this movement. "Child-study" will remain a permanent factor in education. It cannot be laughed down or ridiculed out of the school, but only the sensible phases of it will remain. Every cranky notion and faddish feature is doomed. The advocates of child-study will gain most from the severities of these strictures.—*E. C.*

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, } Editors.
CHARLES M. CURRY, }

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We are very anxious to have copies of four back numbers that are out of print. While we always allow what seems a good margin for extra demand, the call for some issues has long ago exhausted the supply. For copies of the SEPTEMBER, 1895, number we will give an extension of three months to the subscription of the one sending it; for copies of MAY, SEPTEMBER and OCTOBER, 1896, we will give an extension of two months each. Copies must be in suitable condition for binding and should have the sender's name and address written plainly on the wrapper.

The subscribers will please note that the yellow label on THE EDUCATOR indicates the time to which subscription is paid. Sometimes remittance is received too late for the change to appear the month following.

* * *

The Story of a Boulder.

The next article in the series that Professor Dennis is writing upon this subject will appear in the April number of THE EDUCATOR. We believe that our readers will need to study carefully the entire series in order to get a fair idea of the thought that Professor Dennis is trying to work out.

* * *

Our Legal Department.

Our readers will notice that in this issue we print the initial article of a series bearing upon the legal questions that arise in connection with the school. These articles are prepared by Mr. R. D. Fisher of Indianapolis, and we believe that every teacher who studies them will come to a better understanding of the relation of the institution that he represents to other institutions.

* * *

Correlation. The communications of Professors Davis and Dennis, printed in another column, relative to "The Story of a Boulder" raise several interesting questions.

First, is an article placed in the category of "science" because it deals with natural objects like a boulder? or does science consist essentially in a peculiar method of treatment usually called inductive or scientific? If the *method* is essential, does Professor Dennis treat the boulder scientifically, proceeding from particulars to the general, from phenomena to laws (of growth in this instance), from effects to causes, by steps which the reader or student can follow clearly? Are the steps from a boulder of Archaean gneiss at Richmond to the birth of the North American continent, and from that through the spectroscope back to nebulae and star dust really too long for children, or teachers, or any body to take?

Second, can real science be taught to children without mingling it with poetry and mythology? or rather, isn't it best thus to sophisticate it? or does it sophisticate it? Is the "correlation" of science, literature and poetry, advocated by so many eminent educators, any real help to children or to any body else? Does it weaken or strengthen the course of study? Does quality suffer at the hands of quantity? Is the unity lost in the diversity? or does diversity strengthen the unity? Does it make science or poetry more "interesting,"

or is the gain mutual? Does a child get any more knowledge or mental discipline by studying a conglomerate boulder in the light of "The Dorchester Giant," than he would to study the boulder without the "Giant?" Do the lines about dead races paving the planet's floor with lime help the student to a knowledge of the origin of limestones, or do they dissipate the mental energy, that without them would lead directly to that knowledge? A knowledge of the origin of limestones is essential to an understanding of the lines, and an acquaintance with conglomerate is essential to an appreciation of "The Dorchester Giant;" can the rule be said to work both ways?

Third, is "The Story of a Boulder" science, or "nature study," or poetry, or mythology, or a combination of all four—and what is its value in either aspect? These are questions which certainly must be asked by every one who is trying to determine the essentials of a course of study, and the teacher who will undertake a practical test of them with his pupils and with himself, and report results, will furnish a valuable contribution to the science of pedagogy.

* * *

Supervision. The subject for discussion at one of the recent sessions of the Department of Superintendence at Indianapolis was Supervision. The first address was made by Superintendent L. H. Jones of Cleveland, Ohio, upon "The Province of the Supervisor." In speaking of the work of the supervisor Superintendent Jones said that it had four prominent methods, all of which are required for the full accomplishment of the work. All of these have reference to the setting of the standard of the work for the teachers. The first is that of testing pupils through a written examination presented by the supervisor, without notice to either teacher or pupils. The second is the oral test. The third is the observation of the actual teaching which the teacher does. The fourth, he said, is that of teaching by the superintendent. In regard to this last point he made the following statements:

This should be done in the presence of the teacher, and under as nearly as may be the limitations which the teacher is required to observe. A superintendent should never lose the touch with child mind, which comes only by teaching children themselves. His counsel will be more eagerly sought and more zealously followed by his teachers if he can teach better than they in their own school-rooms.

What Superintendent Jones said is the soundest kind of pedagogy on the supervisor question, and Superintendent Jones is an example that illustrates his own doctrine. If there is one thing which in our opinion a supervisor is able to do it is to be able to do

what would have them follow. The supervisor must be able not only to criticise adversely the work of the teacher, and to show wherein it is faulty, but, in addition to this, he must be able to offer something better in its place. We believe that the supervisor should be so well informed in regard to the work that is going on in his schools that he can, at any time, step into those schools and take hold of the classes and teach them as they ought to be taught. The teacher will learn more as to the standard which she is expected to attain by seeing one lesson presented by a skillful supervisor than she will learn in six weeks of observation and adverse criticism by that supervisor. There are too many supervisors who seem to think that their province is to tear down, and when asked for suggestions that will build up are found utterly barren.

* * *

Indiana State Normal School. In reply to an anonymous circular that was inspired by the hope of the establishment of a second State Normal school in Indiana, President Parsons has issued a circular which contains much interesting information in regard to the State Normal School at Terre Haute. He shows clearly that the school is not a local affair by any means. Of the 13,783 students who have attended this school since its opening in January, 1870, about 2,000 have enrolled from Vigo county. This, at first thought, looks as though it is a very large number from the home county of the school, and would have a tendency to give some weight to the local argument if it were not the fact, first, that probably half of these students who enroll from Vigo county have come to the county for the purpose of attending the Normal School; and, second, that there are only 300 schools in Vigo county. So that, even if the per cent. from Vigo county is larger than that from other counties it is true that the state, after all, gets the benefit of the teachers that it educates. The circular shows, also, the annual cost per student of normal school education in Indiana and other states. In Connecticut it is \$160; in New York \$110; in Massachusetts \$111; in Colorado \$100; in California \$95; in Rhode Island \$92; in Wisconsin \$86; in Maine \$39; in Illinois \$41; in Indiana \$43. When one takes into consideration the schools, and the number of students, it will be seen that Indiana is accomplishing more with less money than almost any other state in the union. Nobody that we have heard about is opposed to a second State Normal school in Indiana, but everybody who has the educational good of the state at heart is opposed to establishing another school at the expense of the efficiency of the one already in existence.

Indiana State Normal School. The recent discussion over educational affairs that has arisen in connection with proposed legislation has had a tendency to emphasize in our minds how unfortunate the title of this school is. The fact that it bears the name "Normal School" leads people all over the state who do not know of its distinctive work, to put it in the same class as private normal schools. We have nothing to say, whatever, against the character of the work done in these normal schools, but we do claim that the province of the State Normal is radically different from that of every other school in the state. Its aim is to do one thing, and that is to prepare men and women to teach in the public schools. It is essentially a School of Pedagogy, and should be known only as such. One of the best things that could be done for the school would be to re-christen it, The State School of Pedagogy, or The State Teachers' College.

State Normal Summer School. The Indiana State Normal will conduct its fourth annual summer school beginning June 28. The success of this school during the last three years has led those interested in it to enlarge its scope for the coming term. The range of work offered covers almost the entire course of the State Normal in regular term-time. The student who has taught during the winter months can enter the State Normal in the spring term, and, by remaining through the summer term can get just a half-year's work during his vacation. Those interested in a summer school will find a full account of this school with the schedule of the work to be done on another page.

School Legislation. It would seem that THE EDUCATOR has been wrong all along in supposing that the people of Indiana are ready for a move forward along educational lines. When the Geeting Bill was proposed it seemed to us that every educator in the state would surely agree that every provision in it would better the condition of our schools. But first one section in it was attacked, and then another, until the bill was so mutilated that its friends could hardly recognize it, and when it was finally voted upon it was lost. Perhaps it was just as well that it did not pass with the amendments that had been proposed to it, for with such a bill as it had become upon our statutes the school system of Indiana would have been brought into absolute disrepute. The Library Bill which was proposed, looking towards the improvement of the libraries over the state, met with the same fate. The remaining piece of legislation that

pertains to the schools of Indiana is House Bill 468, which proposes to take away from the State Normal diploma its state license feature. As we go to press the fate of this bill has not been decided, but we cannot believe that there are enough men in our General Assembly who would thus lend their aid towards turning back the hand of progress. So that it looks as though we would have no school legislation this year. THE EDUCATOR will take up the question in the April number and place before its readers the exact state of affairs when the legislature shall have adjourned.

* * *

Indiana University. Since the recent discussion in regard to educational affairs in the present legislature has raised many questions concerning the value of the state institutions, possibly some opinions of eminent educators in regard to the standing of Indiana University would be interesting to our readers. We print here a few of the good things that have been said recently:

The Indiana University has won a high standing through the reputations of the men who have served in its faculty, and from those who have been called elsewhere, as well as through the character of the graduates whom it has sent to other institutions. I believe most heartily that it fully deserves the support of the state which it represents.—PRESIDENT WM. R. HARPER, *Chicago University*.

The faculty of Indiana University has contained within the past ten years some of the most vigorous and promising men in the country. I believe the tone of the University has been aggressive and earnest, and the character of the graduates whom I have met here particularly, confirms that belief.—BENJAMIN IDE WHEELER, *Professor of Greek, Cornell University*.

I am glad to say now, as I have always said, that Indiana University does more with less money than any other institution I know of. It is thoroughly permeated by the right spirit and has little of that ancient rubbish to impede it which clings about some of our universities.—JOHN M. CORLIER, *Professor of Botany, Chicago University*.

I know of no institution in the country of same pay and opportunities that has been able to enjoy the services of a body of men equal in ability and training to those that have worked in Indiana University. * * * There is no other institution in Indiana that is doing anything like the service of Indiana University in leading the way toward a plain, practical, modest, effect and earnest kind of university education.—EDWARD A. ROSS, *Professor of Economics, Leland Stanford, Jr., University*.

As to the graduate students who have come to Cornell University from Indiana University, my impression is that they have been an unusually fine class. I know that they have proved themselves worthy of confidence, on account of the large number of fellowships which they have secured at Cornell University.—PRESIDENT JACOB G. SCHURMAN, *Cornell University*.

These, with many more similar expressions from the highest educational authorities in this country, show in what esteem Indiana University is held.

A New Venture. We are very glad to call the attention of our readers this month to the fact that Professor H. D. Vories, ex-State Superintendent of Public Instruction, has recently bought the Spencerian Business College at Indianapolis. He has already taken possession of it and has gone to work. Professor Vories is a man eminently fitted to be at the head of an institution which is designed to qualify especially for practical business life. He has, himself, demonstrated fully that a man may be a success as a teacher and at the same time be a good business man. Professor Vories has been very fortunate from a financial standpoint in all the business ventures he has undertaken, and we feel safe in predicting that his present work will not be any exception to the rule.

Professor Vories' experience has been extensive and varied. In addition to a theoretical knowledge of all forms of business life, he has been practically engaged as teacher in all grades of school-work from the common schools to higher institutions of learning; has been State Superintendent of Public Instruction, and since the expiration of his term of office actively engaged in the management of a Building and Loan Association. His practical business knowledge helped him in revolutionizing practically the method of keeping the accounts of building and loan associations.

Professor Vories has associated with him in his new enterprise some of the leading school men of the state as incorporators, and there is every reason to think that his institution will occupy a prominent and successful place from the start. He will put his whole effort into the work. The knowledge of men and business methods which he possesses will enable him to adapt his courses of instruction to the needs of modern business life. Prospective students may rest assured that what is offered will be eminently practical and not all theory.

In conclusion it may be said that all these points will make it possible for business men to rely implicitly upon recommendations from this school. The integrity and superior ability of its president and incorporators insure honorable treatment of all who have dealings with it.

* * *

The Balance of Power. In Europe, the balance of power appears to be in a state of unstable equilibrium. A few months ago some of the powers began to demand of the sultan a cessation of his barbarities in Armenia, and reform was readily promised. But the crafty ruler at Constantinople clearly saw the impossibility of enforcing such a demand unless it should express

the agreement of all Europe, and so his atrocities were only multiplied.

More recently such an agreement seems to have been reached, resulting in a mild sort of threat, and the sultan is waiting to see if Europe really means what she says.

The impression created by all this slow diplomacy is that the situation in Europe was quite secure by virtue of the elaborate system of treaties, binding and counter-binding the powers among each other in a way that made individual action almost impossible. Still it was evident that the center of power was by no means fixed.

During the past year Russia has grown mightily in importance. Italy, too, with a single exception, has been unusually prosperous; while France has won a splendid diplomatic victory by taking Germany's place in the friendship of Russia. This alliance between France and Russia, if it really amounts to an alliance, will necessitate great caution on the part of Germany, especially as there are certain disturbing elements within her own boundaries.

While the civilized world has wondered what was coming next, and while the Sublime Porte with consummate audacity has also wondered, and smiled, no doubt, in fancied security, brave little Greece has spoken out in no uncertain terms.

* * *

Greek Versus Turk. The population of Crete is partly Mohammedan and partly Christian; and the latter, who are mostly Greek Catholics, have long complained of oppression, tolerated if not instigated by the sultan of Turkey. Here, as elsewhere, he has promised reforms which came so slowly that a state of civil and religious war has broken out on the Island.

Greece has long desired the annexation of Crete, and her present intervention is doubtless made with that in view.

Turkey must have been startled to find a state in Europe sufficiently disentangled to assert itself. Greece is acting, indeed, contrary to the advice and warning of the Powers. King George has shown splendid spirit, and declares that Greece accepts the full responsibility for her conduct. The Powers, however, seem resolved to prevent serious warfare, and have already interposed an armed force.

There are some very small people on this planet, but the first prize belongs to the fellow who changes his postoffice without notifying the journal he is taking, and then accuses the proprietors of robb^y ^{as he doesn't receive his}

DEPARTMENT OF SUPERINTENDENCE.

The recent meeting at Indianapolis may be fairly considered as one of the most successful held by the department. The excellent order and the large attendance combined to increase the interest in the various lines of work. The department was also fortunate in its presiding officer, Superintendent C. H. Gilbert of Newark, New Jersey. The courtesy and excellent spirit of the chairman, combined with his fine executive ability, added much to the success of the meeting. This success was also due to the efficient services of Lawton B. Evans of Augusta, Georgia.

It was observed by many, that the work of the department began and ended in meetings of great strength. The beginning meeting was a report on "Plans to Collect Data Concerning Methods and Courses of Work in Primary Schools, Tending to Promote a Vital Connection Between School Studies and the Educational Development of the Child and of Man." This report was prepared and read by W. H. Hailmann, Superintendent of Indian schools. It is unnecessary to say that it was an excellent report, and presented the whole subject from a broad educational view.

The paper on Superintendent Hailmann's report, which was presented by N. C. Schaeffer, State Superintendent of Public Instruction in Pennsylvania, and the succeeding discussion led by Edward R. Shaw, Dean of School of Pedagogy in the University of New York, commended, in the main, the report of Mr. Hailmann. This meeting, throughout, showed the deep interest felt by educators in the relation of primary schools to the development of the child.

During the afternoon of Tuesday various Round Table meetings occurred. One of the most important of these, and the one, perhaps, most largely attended, was the Round Table meeting on "Child-Study," conducted by M. V. O'Shea, Professor of Psychology and Child-study in the School of Pedagogy, University of Buffalo. This meeting indicated the deep interest that is now being taken in this subject of child-study. Under the able leadership of Professor O'Shea the various lines of child-study were clearly brought out. The meeting was made very valuable on account of the systematic plan indicated in the order and nature of the various subjects presented in the different papers. Sometimes the Round Table loses interest because the leader depends upon the various members present to begin and continue the discussion. Professor O'Shea, however, had arranged beforehand to have the different important phases of the subject discussed by leading educators, and had

arranged the best order for the presenting these views.

The various Round Table meetings began the same hour, but prevented an observation of work given in the other divisions.

On Wednesday morning at 9:30 A. M. began one of the most important discussions of the meeting. This meeting began with a paper by J. Jones, Superintendent of Schools, Cleveland. His subject was "The Province of the Supervisor as Viewed by the Supervised." This was followed by a paper by Sarah L. Br. of St. Paul, Minnesota, on this subject: "The supervisor as Viewed by the Supervised." The pertinent thought in Superintendent Jones' paper was that the supervisor should be so skilled a part of teaching, and should have made such as of the difficulties of the teacher's work and of nature of the child, that she could, on the one hand, be in full sympathy with the children with the teachers, and could on the other hand various times as necessity seemed to require, illustrative lessons in the presence of one or of the teachers.

In the afternoon occurred again meetings of Round Tables. The subjects of the various meetings were as follows: "Public Libraries and Public Schools;" "Summer Sessions and the Arrangement of the School Year;" "The Three Round Table of State Superintendents." A on account of the fact that these meetings occurred at the same hour, all of them could not be observed. The Round Table meeting on "The Three Round Table of State Superintendents" was conducted by J. M. Rice of New York. I well known on account of a series of articles in *Forum* concerning the public schools of the country. These articles and subsequent ones prepared by Mr. Rice have created great interest and considerable discussion. This meeting was largely attended. It was not, however, the opinion that the results reached in it were valuable. It may be due, somewhat, to the fact that Mr. Rice, unlike Professor O'Shea, had not prepared beforehand a systematic mode of procedure. He had selected the important phases of the subject and secured prominent persons to write or speak on these phases. His plan seemed to contemplate that he should merely preside, and that the discussions, whatever they were to be, should be finished by the audience. The result was that discussions were desultory, and that the essential features of the work were not touched upon thoughtfully discussed. By some it was held that the results that he wished to reach were not important. For example, he seemed to desire a definite answer to such questions as the following: "Just what knowledge of spelling should the pupils have at the end of the eighth year grade?"

On the evening of Wednesday, at 8 o'clock, one of the most important discussions of the meeting occurred. This was an illustrative lecture on "Music in Education," by Wm. L. Tomlins of Chicago, Ill. All his hearers were greatly delighted with his thought concerning music and his mode of presenting the work. Professor Tomlins has had twenty-five years or more of experience in teaching music to children, being accomplished both with a voice and as a pianist. He illustrated the lecture through the voice and the piano. In the main, his lecture was a plea for the spiritual nature of music, and for its influence upon the spirit of the hearer. He gave a very subordinate place to the mechanical side of music.

On Thursday morning, at 9:30, occurred first the report of the committee on nominations. The following are the officers for the current year: N. C. Schaeffer of Pennsylvania, President; F. B. Cooper, Iowa, First Vice-President; E. T. Marke, Kentucky, Second Vice-President; W. F. Steele of Illinois, Secretary.

At this time, also, occurred the voting as to the place of meeting. There was a lively contest for the purpose of securing the meeting, led by representatives from Chattanooga, Tennessee; Columbus, Ohio, and Washington, D. C. The claims of these places were presented in interesting and appropriate addresses. By a large vote the convention decided in favor of Chattanooga. This seems fortunate, since the meeting being held in winter, Chattanooga, on account of the climate, offers unusual advantages. On account of its historical associations it also offers great inducements.

Following the selection of a place of meeting came a paper by Samuel T. Dutton, Superintendent of Schools, Brookline, Massachusetts. The title of his paper was "The Correlation of Educational Forces in the Community." It is to be hoped that this paper will be published in full, so as to be brought to the attention of the different superintendents and school boards throughout the country. It gave a very interesting history of the mode by which the school, as a working force in a community, can be lifted out of its isolation and brought into harmonious relations in the home, the church and state. Superintendent Dutton described in detail the work that had been done in Brookline, Massachusetts, in this direction. This paper was discussed in a very able way by Ida C. Bender, Supervisor of Primary Schools, Buffalo, New York. In discussing Superintendent Dutton's paper Miss Bender took as her subject "The Relation of Citizens and Teachers." It is evident, therefore, that she treated the special point under the more general subject as given by Superintendent Dutton. There was one great excellence in

her discussion; she had evidently studied, beforehand, carefully the paper presented by Superintendent Dutton. This enabled her to speak directly to the point. She indicated the features of the paper that seemed to her worthy of commendation, and she also set forth—a thing not often done—those features that seemed to require modification.

The writer regrets that he was unable to be present during the discussion of "The Proper Use of School-Houses," by Aaron Gove, Superintendent of Schools, District No. 1, Denver, Colorado.

Thursday afternoon were given the concluding Round Table meetings. Of these there were four: "The Essentials of a Course of Study," "School Sanitation," "Training to Citizenship," and "The Round Table of the City Superintendents." The writer was able to be present at two of these only. The Round Table meeting considering "The Essentials of a Course of Study" was conducted by C. G. Pearce, Superintendent of Schools, Omaha, Nebraska. The subject of discussion promised a very interesting and important meeting. No doubt the majority of those assembled assumed that the discussion would consider the nature of the mind of the pupil, his various capabilities, his limits and the phases of development on the one hand, and on the other the branches of study necessarily required to bring about the needed development in the child. Nothing of this kind, however, seemed to be in the thought of those conducting the meeting. The long discussion concerned itself from beginning to end with the mere externals relating to a printed course of study. The main question seemed to be: Shall the Superintendent, in printing a course of study, print in one pamphlet the names of the branches to be studied, and in another the principles to give in presenting the studies, and in still another the devices and external means to be employed; or shall all these features be embodied in a course of study which may be termed a manual? Other minor questions considered were of like nature; that is, they related merely to externals. Among these were: Should the work be indicated by pages in the text-book? Should the time to be given to each subject during the week be definitely stated? While a few excellent thoughts were presented during the discussion, in the main it may be said that the meeting did not come up to the expectations awakened by the excellent title given, "The Essentials of a Course of Study."

The Round Table of the Herbart Club, which had taken as its subject "The Training to Citizenship," was conducted by J. W. Jenks, Cornell University. Professor Jenks opened the meeting by reading an excellent paper on "The Training

to Citizenship," which was printed in full, and is furnished to each member of the Herbart Club. The paper was a very fine one, and made a clear distinction between teaching a subject like civics, and teaching the life of the individual as found in a community. It showed that there is such a thing as dealing with civics; that the Constitution of the United States has in it something different and apart from the life of the individual. It set forth on the other hand that the true teacher of civics does not regard any constitution, in any system of laws or relations in any phase, but the individual himself in his live contact in the community. Upon the whole, this was regarded as one of the strong meetings of the Round Table circles.

But, as indicated earlier, the last discussion of the convention was not in any sense the least. On Thursday evening at 8 o'clock began the discussion of this important subject, "Art in Education." It was the intention to have this subject presented under two heads: the first being "Art as Related to Education," and the second, "Teaching Art in Schools." The discussion was to be led by Superintendent W. H. Maxwell of Brooklyn, N. Y. W. T. Harris, United States Commissioner of Education, was to deal with the first subject, "Art as Related to Education." Francis W. Parker, principal of the Chicago Normal School, was to consider the second. In his absence, however, Superintendent Maxwell presented that subject. Probably the largest audience of the entire session was assembled in Plymouth Church on this evening. It manifested the deep interest that the educational people of the country take in any of the utterances of their able commissioner. They were not in any way disappointed in the work presented to them under "Art as Related to Education." In clear voice and in simple manner, Mr. Harris set before the audience the great function of art in education. In a masterly way he sketched the essential features in Oriental art, Classical art and Christian art. Having shown these and their relation to the spirit of man, he concluded by presenting in a very definite and satisfactory way the work that the schools could do to make art have its true function in the education of the child.

The paper presented by Superintendent Maxwell sustained and further exemplified the views presented by Commissioner Harris. This latter paper, however, passed from the consideration of art in general to art as shown in the subject of drawing, and in the main treated of the weaknesses that had prevailed in the presentation of that subject and in the features that ought to be introduced in order to make it fulfill its true work. It only needs to be said that the paper was worthy to be presented

along with the one that treated "Art as Related to Education."

In calling for general discussion upon these papers, and hearing no response, President Gilbert fitly said that it was appropriate to have the Department of Superintendence close with these two papers without any general discussion, because every member of the Department of Superintendence would be glad to go away from Indianapolis with the taste of these two papers lingering. Thereupon he declared the Department adjourned.

"THE STORY OF A BOULDER."

To the Editor of the Inland Educator:

The interesting account of a series of school lessons, outdoors and in, under the above title in your February number, is a welcome indication of the increasing attention to observation and explanation as a basis for the further study of geography; but in certain respects the lessons go too far: they attempt to explain too much. Their excess seems to be the result of the enthusiasm born of knowledge recently acquired by the teacher, under the influence of which there is an attempt to carry explanation much further into the past than is either necessary or safe. Many teachers can very likely recall a phase of work in their own experience very similar to this, but it is a passing phase, and it should be followed as soon as possible by another in which early enthusiasm is tempered by mature experience, and in which much recondite theory as to ultimate causes is replaced by closer attention to immediate facts and their elementary explanation.

More specifically, the account of "Ancient America" on pages 14 and 15 may be objected to on three grounds; first, because it contains various errors; second, because the facts of the ancient history of America, as now understood, are too complicated to be clearly followed by young pupils; third, because difficult material of this kind must, when introduced, displace elementary material of a kind that can be fully appreciated. The account of "Ancient America" is, indeed, an example of pseudo-science that has too large a place in our schools. It is presented under the name of science, because it treats a subject that is commonly regarded as necessarily scientific; but the presentation is empirical, and thus the essence of the scientific quality is lost. The presentation is necessarily empirical, inasmuch as it deals with matters about which young pupils can have no reasonable experience. It is unscientific, because it does not treat the subject in a manner to give it a demonstrable quality in the minds of the scholars.

How utterly irrelevant and entirely incompre-

hensible to a class of children must have been the over-learned statement:—"In 1800, however, Fraunhofer began, and in 1860 Bunsen and Kirchhoff completed, the invention of the spectroscope—an instrument which is able to reveal the difference between nebulous masses and stars, whether they be near or far." A class that had been studying a boulder in a field must have been mystified with all this. They must in the end have been left wondering how in the world the teacher had found out about the "fire-wrought crest" of the Laurentian V! The end of real scientific teaching is to leave the road from observations to conclusions perfectly clear in the scholars' minds. The beginning of the lessons with direct observations on a local boulder is good; but their rapid extension into the growth of the earth and of North America, etc., seems to me a serious error of judgment.

As to the introduction of poetry and its fancies in scientific studies, and the treatment of geological problems as a contest between Neptune and Pluto, perhaps this is a matter of taste; but there are many who do not find either real science (demonstration) or real poetry (imagination) in the mixed article.

Is there not, in fine, a more simple and direct way of leading children to understand something of glacial action and its effects? Can they not have more touch with fact all along their advance and thus at the end acquire something of scientific training? "Pluto, maddened that his aerial realm was being so hemmed in:"—this will lead to no scientific training whatever. Such personifications are not necessary to hold the attention of young scholars. Simple observation and explanation suffice alone. Hence, as one reader of the "Story of a Boulder," I take the liberty of entering this protest against the fanciful story, and urging its replacement by something in which the children can have a realizing sense of the simple truth.

W. M. DAVIS.

HARVARD UNIVERSITY.

RICHMOND, INDIANA, Feb. 22nd, 1897.

To the Editor of the *Inland Educator*:

It was kind of Professor Davis to approve of the subject of my article in the February issue of your paper. His conclusion that "Their excess seems to be the result of the enthusiasm born of knowledge recently acquired" is an error; it is all the result of an afterglow.

His note assumes that the entire article is a lesson to be read to *children* at a sitting instead of an article from which teachers may gather and adapt lessons for their *students*.

He says "more specifically, it contains various

errors;" but is not this *generic*? Suppose I answer, it contains no errors?

It suited my purpose to say that the universe grew; that the earth grew; that North America grew. I said these things as simply as I knew how, and, if the reader will excuse me, for the purpose of saying that boulders of gneiss grew.

The question "is there not a more simple and direct way of leading children to understand something of glacial action and its effect?" is premature. The article considers the birth or (with less "personification") the formation of a stone up in Canada. It has not reached glaciation yet.

The entire note raises some questions on pedagogy, upon which I desire to give an opinion, but which I do not mean to discuss. First, the universities in this and other countries produce yearly almost countless theses, not one in a hundred of which is ever read by anybody but its author and the professor who inspired it. Shall all of our teaching degenerate into this sort? I hope not. Second, shall none of the results of the past centuries of scientific labor be given to students who cannot inductively reach them? Thousands of investigators along so many lines, and yet the student must not have a hint that he cannot work out. Do not time and humanity forbid? The things which lead up to a subject must not be given in brief outline before the subject itself is entered upon!!! Conclusions must be reached; are not Agassiz and Pasteur great names in science? They were sometimes wrong in their conclusions, but this was vastly better than not to form any.

Third:

"What oldest star the fame can save,
Of races perishing to pave
The planet with a floor of lime!"

This must not be used because, first, nobody knows which star is older than which stratum; second, the planet was not *paved* at all, the shells are irregularly scattered; third, it was not *lime* at all, it was *limestone*, and sometimes silica and often phosphates. But this triplet will be the vehicle of essential truth after 10,000 professors of *accuracy* are no more.

I never made a plea for inaccuracy and I do not now begin. When a scientific fact is illustrated from history, poetry, religion, or anywhere else, the resultant is not "a mixed article."

This was the criticism for nearly a half century on the second part of Faust. But, when the students of history, of social life, of geology, of zoology, and of art in all its forms, put their notes together they make out the second part of Faust the growth of a soul illustrated by all kinds of organic growth. It is no longer "mixed."

I have a mind to suggest
 "Wer manches bringt wird manchem etwas bringen."
 but I fear this would be "overlearned." I will
 only say, Professor Davis liked my title, and will
 doubtless write something on it "of which the
 children can have a realizing sense;" perhaps
 others may like and use some other parts.

D. W. DENNIS.

EDUCATIONAL INFORMATION.

Miss Cora Park has resigned her position as teacher in the Ft. Wayne High School on account of ill-health and has gone to North Carolina.

Superintendent John W. Carr of Anderson, was one of the speakers in the discussion that followed the paper on Supervision by Superintendent Jones.

The Department of Superintendence was fairly well attended, and it was thought by those present that the discussions would prove very beneficial to school work.

The members of the Commercial Club and the teachers of the Indianapolis schools gave the visitors to the meeting of the Department of Superintendence a reception at the Propylaeum. About fourteen hundred people were present and it was considered a very elegant affair.

The schools at Bedford, Indiana, will have the term shortened this year by several weeks on account of lack of funds. This is unfortunate for the children.

The choice of Chattanooga for the meeting in '98 will prove very satisfactory indeed to Northern educators. A little jaunt south in February is considered a great treat.

Many of our readers will remember E. E. Smith, who was formerly with D. C. Heath & Co. He is now located at Atlanta, Georgia, as an agent of this company, and was present at the recent meeting at Indianapolis.

At the Round Table meeting on Child-Study at Indianapolis, Professor W. L. Bryan talked on "The Development of Voluntary Motor Ability." President Yoder of Vincennes University, at the same meeting discussed "Adolescence."

A recent announcement of the Marion Normal College received indicates that it is in good condition and well prepared to receive students for the spring and summer terms. J. W. Laird, a recent graduate of the State Normal School, has lately been added to the faculty.

A change has recently been made in the firm of Wm. H. Armstrong & Co., whose advertisement appears in THE EDUCATOR, by which Mr. Emil Wilbrandt retires from the business. Captain Armstrong continues the business of the firm under

the style of Wm. H. Armstrong & Co. The firm has built up a large reputation for producing instruments of high quality.

Commissioner W. T. Harris was one of the prominent figures in attendance at the Indianapolis meeting. Dr. Harris holds an enviable position among the educators of this country. We have to hear the first disparaging remark in regard to him by any educator. He is an honor to the Department of Education in this country, and his salary ought to be made in keeping with the matter.

At a recent meeting of the teachers of Lawrence township, Marion county, Indiana, a resolution was passed recommending that the eight year course in our common schools be extended one year. They claim that as it is at present the graduates are not prepared to take up the work in the high school. This is a point worth consideration and it seems to us that there are a good many things in its favor.

Professor Samuel E. Harwood of the Carbondale Normal School, has had a thrilling experience. One night recently he was awakened by a noise in his room. In the darkness he distinguished the form of a man crouching on the floor at the foot of his bed. He opened fire upon his visitor and in the contest that resulted received a bullet in his body. The many friends of Professor Harwood will be glad to learn that he was not seriously hurt.

During the recent meeting at Indianapolis one of the unique affairs was a reception tendered the ex-superintendents of Indianapolis schools by Miss Nicholson, Miss Cropsey, and the supervisors Professor A. C. Shortridge, the first superintendent Professor George P. Brown, Professor H. S. Tarbell, and Professor L. H. Jones were the guests of honor. The Indianapolis schools have reason to be in first-class condition, having had the guidance of such men as these.

At the recent meeting at Indianapolis the following resolution was adopted:

Resolved, That approval is hereby given to the proposition that a committee be appointed to draft a report setting forth clearly and in detail what should be considered the minimum standard of professional qualifications to be required for State certificate, said committee to consist of sixteen members, as follows: The United States Commissioner of Education, the present president of the N. E. A., the present president of the Department of Superintendence, four state superintendents, three State Normal School principals, two principals of local training schools, two presidents of Boards of Education, and two others.

North Salem, Indiana, and Dublin have university extension courses in American History by Walter S. Davis of the University of Chicago, with 125 members in each centre. There are six lectures with the following subjects: 1. Philadel-

phia Convention. 2. The New Roof—the Ratification Conventions. 3. Chief Justice Marshall and the Supreme Court. 4. The Reconstruction Period. 5. Fugitive Slaves and the Underground Railroad. 6. The United States and Maximilian's Mexican Throne.

The Western Drawing Teachers' Association will hold its fourth annual meeting in St. Louis, Mo., April 21-23. At that time there will be one of the largest exhibits of drawing ever seen in the country, as about sixty Western cities will send work. The people of St. Louis take great interest in the coming event, and will exert themselves to make the guests of their city comfortable and happy during their stay. The program will be a literary feast, as many of the leading educators of the country are to speak.

Among the prominent Southern educators who came to Indianapolis were G. R. Glenn, State School Commissioner of Georgia; President L. D. Bradwell, Georgia State Normal school; Superintendent D. Q. Abbott, Macon, Georgia; Superintendent J. S. Stewart, Marietta, Georgia; Superintendent G. G. Bond, Athens, Georgia; J. C. Beauchamp of the Georgia School Book Commission; Superintendent M. E. Ware, Hawkinsville, Georgia, Superintendent T. E. Williams, Sparks, Georgia, and Superintendent J. H. Whichard, Dawson, Georgia.

We have received an advance sheet of the program of the fifteenth annual meeting of the Northern Indiana Teachers' Association, which will be held at Elkhart, Indiana, April 1, 2 and 3. An extended program has been arranged, and we note that a rate of one fare for the round trip has been secured for those who attend the meeting. Besides the general program, there are programs for an art section, a music section, a high school section, grade section, and a section for country and village schools. The retiring president is Superintendent Calvin Moon of South Bend, and the in-coming president, Superintendent W. R. Snyder of Muncie. We note that addresses are to be made before the general section by Dr. C. C. Van Liew of the Illinois State Normal, and by Dr. Wm. L. Bryan of Indiana University, on "Child-Study;" by Dr. Chas. DeGarno, president of Swarthmore College, on "The Sociological Aspect of Public Education;" by Professor Arnold Tompkins of Illinois University, on "The Beautiful as a Factor in Education," and by Mathilde Coffin of Detroit, on "The Success and Failure of the Public School." The programs arranged for the sections indicate that live subjects will be discussed.

The following special bulletin has recently been

issued to the directors and state managers of the N. E. A.: The Executive Committee has just received official announcement that the Western Passenger Association has granted for the Milwaukee Meeting, July 6-9, a rate of one fare plus \$2.50 for the round trip (\$2.00 on account of membership fee and 50 cents on account of expenses of Joint Railway Agency at Milwaukee). Tickets will be on sale July 3d, 4th and 5th, from all points in Western Passenger Association territory east of the eastern state lines of Colorado and Wyoming, and on July 2d, 3d and 4th from all points west thereof. An extension of time limit for return, until August 31st, 1897, will be granted on tickets deposited with Joint Agent at Milwaukee on or before July 12th, 1897. Immediate application will be made to all connecting Railway Associations for concurrent action, and the committee hope to be able to announce such action at an early date. The following changes in state managers are announced: For North Dakota, Joseph Kennedy, State University, Grand Forks, *vice* Miss Emma F. Bates, resigned. For West Virginia, Walter J. Barnes, Fairmount, *vice* J. L. Good-knight, resigned. Department Presidents are urged to complete their programs at an early date, and to furnish the Secretary of the N. E. A., from time to time, information for publication in the Associated and Educational press. Expenses, not to exceed \$15.00, are authorized for each department, the bill to be presented to the Secretary at the time of the annual meeting. State managers are requested to furnish all other state managers, the secretary of the local committee at Milwaukee, and the members of the Executive committee with copies of all circulars issued.

MRS. D. W. DENNIS.

The friends of Professor D. W. Dennis of Richmond, Indiana, were very sorry, indeed, to learn recently of the death of his wife. Mrs. Dennis had a large circle of acquaintances in the state. She was a graduate of the Indiana State Normal School at Terre Haute in one of the early classes, and has long been identified with the educational affairs of the state. She taught in the Indianapolis schools under the superintendency of Mr. Shortridge. She was at times a teacher in the Parke county common schools, in Bloomingdale Academy, and at Earlham College, Richmond. She was an earnest woman, who placed the stamp of her zeal and genius upon everything that she undertook. She was the moving spirit in a number of the literary clubs at Richmond, and will be

sadly missed in the circles in which she moved. She was a woman who was thoroughly altruistic, and who literally wore her life out in trying to help others. It is said that she was a born teacher, and that students in her classes needed no other incentive than her inspiration. The tributes of respect offered during the last sad rites showed in what high regard she was held by her people, and were fitting in every way of the love that they bore for her. Her life was one that made the world better. She leaves one son, William Dennis, who is now a student in Harvard University. Professor Dennis and his son have the sincerest sympathy of their friends everywhere.

BOOK REVIEWS.

THE MASTERY OF BOOKS. By Harry L. Koopman. Cincinnati: American Book Co. 214 pages. Price 90 cents.

The problem of how to read in order to derive the greatest benefit with the least expenditure of energy is one of considerable importance in this day of the making of many books on every conceivable topic. Most of the books which have attempted to help in the solution of this problem have been so vague in their suggestions that their value is insignificant. It is a delight to happen upon a work by a man who not only understands how to classify books scientifically, but who also knows what is in books and the relative value of works treating the same subject. Mr. Koopman is the librarian of Brown University, and this little book undoubtedly embodies a great deal of practical experience and observation. He does not attempt to name books to be read and methods to be followed in reading them. "It is rather the aim of the work" he says, "to take counsel with the student in regard to his purposes in reading: to consider with him his capacities and opportunities; to aid him in turning to such classes of books as will further the attainment of his aims; and also by the suggestion of various methods, to lead him to the study of his own qualities of mind and character, to the end that he may choose the material and manner of reading most profitable for himself." All students of books must rest under much gratitude to the author for the manner in which he has carried out this aim.

C. M. C.

NATIONAL EPICS. Kate Milner Rabb. Chicago: A. C. McClurg & Company. 398 pages. Price \$1.50.

There is a growing demand for the world's best literature. The belief by the best educators that the child is an epitome of the race has led to a closer study of the development of the race, and

has increased the interest in the products of the race at every stage in its development. Educators are seeking the heritage that each people has left us in science, art and institutions. The remains in architecture, sculpture, painting, music and literature help tell the story of each people and describe its mental life. By no means the least interesting and helpful line of investigation is to be found in a comparative study of the great epics of the race. Many who have known something of these epics will be delighted to learn that under the above title Mrs. Rabb has practically brought together in one volume seventeen of the world's epics. The volume is intended as introduction to the study of the epics and it will accomplish this and more. The story of each epic is told, and some part of it chosen for illustration. The stories are well told, and the selections in most cases are happily chosen. For example, any one who is at all interested in the Maha-Bharata, will find here an excellent account of this Hindu Epic with translations of some of its beauties. And this is no exception for the author has treated with equal skill the great epics from this time down to and including Milton's epics. Educators who believe in presenting to children the literature of the corresponding age of the race will find here just what they have been looking for.

F. M. S.

THE JOURNAL OF SCHOOL GEOGRAPHY. Edited by Richard E. Dodge, Teachers' College, New York. Monthly. \$1.00 a Year.

It is a great pleasure to call the attention of teachers to this new journal, the first number of which has just been received. It is in charge of R. E. Dodge, professor of "Earth Science" in the Teachers' College, New York, assisted by Professors Davis and Ward of Harvard, Kummel of Lewis Institute, Chicago, McMurtry of Buffalo and C. W. Hayes of the United States Geological Survey. Its aim is to "advance in every possible way the cause of good geography teaching in the elementary and secondary schools." Professor Davis writes upon Home Geography, C. C. Adams about Africa, W. S. Monroe concerning Geographic Instruction in Germany and the chief editor gives some suggestions regarding geography in grade schools. This is followed by brief notes of the most important recent discoveries and reviews of new books and appliances. There is no more crying need in the common and grade schools than for improvement in geographic teaching, and no one thing would do more to improve it than to place such a journal in the hands of every teacher. It has the great merit of not flying above the heads and needs of the youngest primary teachers, and by its suggestions

will open up to many a world of new possibilities. It is "good enough what there is of it;" so good that we wish there were more.

A BRIEF HISTORY OF THE NATIONS. By George Park Fisher. Cincinnati: American Book Co. 599 pages. Price \$1.50.

Professor Fisher's *Outlines of Universal History* has been very generally regarded for many years as one of the sanest books attempting to give, in moderate compass, an intelligent account of the development of the world. This work, however, is much too large for use in high schools and other institutions where the time devoted to the study of general history is necessarily brief. This new book by Professor Fisher—it is not a mere condensation of the old—is designed to fill this field. It presents in clear perspective "the most important facts of history in their due order and connection, with the inclusion, as far as the space will permit, of such illustrative details as may prevent the narrative from being a dry summary—a skeleton without flesh and blood." A notable feature of the book is the devotion of a much larger portion of space than usual to the treatment of so-called Modern History. The maps and illustrations are very satisfactory and the index is an admirable piece of work.

C. M. C.

ADDRESSES AND PROCEEDINGS OF THE NATIONAL EDUCATIONAL ASSOCIATION. Buffalo, New York. 1896.

Such is the title of the complimentary copy which comes to our table through the courtesy of Secretary Irwin Shepard. The volume has 1088 pages and is from the University of Chicago Press, which is another way of saying that the work is well done. In addition to reports of officers and committees, a journal of proceedings, interesting statistics, and names of officers and members, we have the addresses in full delivered at the General Sessions, at the Jacksonville Meeting of Superintendents, at the National Council, and at the fourteen department assemblies. These addresses, to say the least, are a rich treasure, embodying the best thought of the best educators of our whole country, and this expressed in as concise form and as fine style as the speaker or writer could command.

Here are Wm. T. Harris, David Starr Jordan, Nicholas Murray Butler, G. Stanley Hall, John H. Vincent, Wm. R. Harper, Brander Matthews, Andrew S. Draper, Booker T. Washington, Earl Barnes, F. M. McMurry, and a host of others. The fortunate possessor may well regard this volume as an unfailing store-house to which he may often return with an assurance of perennial inspiration.

W. W. S.

THE EVOLUTION OF AN EMPIRE. A brief historical sketch of the United States. By Mary Platt Parmele. New York: William Beverly Harrison. 312 pages. Price —

This volume is one of the series called The Evolution of Empire Series. Its aim is to present in the simplest and most interesting way the main outlines of our history. The thought of the writer is that too often the life is crushed out of history by an insistence upon details, whereas "The history of America should be an inspiration, not a task. It ought to be known in its grand simple lines by every child in the nation. * * * Let it be so acquired, first in its utmost brevity, then enlarged, and enlarged again and again." The author has a pleasing style and has put a great deal of spirit into her work. It will form a good introduction to United States history to put into the hands of the young person.

C. M. C.

INDIANA STATE BOARD QUESTIONS FOR FEBRUARY, WITH DISCUSSIONS.

GEOGRAPHY.

(Any five.)

1. In what order should the three divisions of geography be taught? State reasons.
2. How does the Atlantic coast of the U. S. compare with the Pacific coast in (a) curvature, (b) elevation, (c) indentation?
3. What natural conditions favor the development of manufactures? What natural manufacturing conditions does Indiana present?
4. Why does California have wet and dry seasons, similar to the seasons of the Torrid Zone?
5. Why was the Mediterranean the natural seat of early navigation?
6. What two great rivers drain the lake region of Africa? Which of these is of great historical importance, and in what respects does it differ from most rivers?

1. Perhaps no rule will apply to all grades except that the geography of man should come last. The general order for each geographical unit, whether it be the whole earth, a continent or a country, should be relief, climate, life, man. Under relief is included the form of the earth as a whole and in detail, and under climate the relations of the earth to the sun which determine climate. This is the logical order, because each successive factor or element conditions and controls the succeeding ones. Climate is determined by relief and the motions of the earth; relief and climate control the distribution of plants and animals, and all these furnish the physical conditions of human life.

2. The Atlantic coast line is concave to the sea, has a broad coast shelf under the water, and a wide coastal plain on its land side; indentations, or at least those available for harbors, are very scarce south of Chesapeake Bay; from that bay northward drowned valleys penetrate everywhere far into the land. The Pacific coast line is convex

to the sea, with an abrupt slope seaward and landward and almost without indentations, except Puget Sound, San Francisco and San Diego bays, and the mouth of the Columbia river. The cause of this difference is that the Atlantic coast is old and sinking, the Pacific young and rising.

3. Presence of iron, water-power, coal or other fuel; facilities for bringing in raw materials and sending out manufactured products. Indiana possesses coal, natural gas, petroleum and ample railroad transportation.

4. Because of a seasonal change in the prevailing winds.

5. Its irregular outline furnishes numerous harbors; its arms form easy routes of travel far into the land: its peninsulas and islands make the voyage from port to port very short.

6. The Nile and the Congo. The Nile has been of historical importance for six thousand years. Its water supply is from rains about its source, and in the lower 1,500 miles of its course it flows through a rainless desert and is without tributaries. It is peculiar in the regularity of its floods, which render the narrow strip of flood plain through the desert extremely fertile.

HISTORY.

1. To what degree have industrial pursuits determined political parties in the United States?
2. Give an estimate of the character of James Buchanan. What book or books have you read on this subject?
3. What did the term "Squatter Sovereignty" mean?
4. What are some of the effects of the introduction of the bicycle as a means of locomotion in the United States?

1. To a very great degree. The fact that the South was agricultural made it have relatively little interest in internal improvements, banks, tariffs, and railroads; while the North having a diversity of industrial life wanted all the above, and wished a strong national government to foster and protect them. The root out of which political parties in the United States has grown is this one of the relative strength of the national and the local government.

2. James Buchanan was a very upright, pure and generous man in private life. A lawyer of excellent attainments. A man of integrity and honesty, both in private and public life. In public life he was wanting in decision of character, especially in his capacity as president just before the war.

Schouler, Wilson, VonHolst and Curties all give good estimates of his character.

3. It meant that the people who went West and settled in a Territory should have the right to decide by vote whether or not that Territory on becoming a State should have negro slavery in it.

4. (a) It has lessened the value of horses and carriages.

- (b) It has increased the discussion respecting good country roads.
- (c) It has promoted social intercourse, and has improved the health of the people, in the main, who use them.
- (d) It has promoted more healthful dressing amongst women.

GUIZOT'S HISTORY OF CIVILIZATION.

(Any four.)

1. Name and describe briefly the classes of persons found in Europe at the beginning of the fifth century.
2. When was the church—the church as an ecclesiastical society—organized?
3. How did the church benefit society:
 - (a) As to slavery?
 - (b) As to civil and criminal legislation?
 - (c) As to the penitentiary system?
 - (d) As to war?
4. What was the character of the influence of the church on the intellectual development of Europe?
5. From what view has Guizot judged the church, from the successive events which have developed it or from the completed whole? Explain.
6. Describe the work of Gregory VII. in connection with the church. "A centralized theocracy supported by Monasteries." Explain.
7. Discuss the influence of the separation of the governors from the governed in the church. Why did this occur? How was the influence of the Christian public exerted in this period?

1. a. The descendants of the ancient Romans; living in cities chiefly around the Mediterranean Sea, and having a considerable degree of comfort and culture.
 - b. The Teutonic races; wandering all over Western and Southern Europe; very full of feeling of personal liberty, but having no culture and no stability of organization of any kind.
2. Gradually and progressively from the first century A. D. down to the close of the fifth. Changes were made in its organization after this, but they were changes only in detail.
 3. a. Used its influence, and in the main very powerfully, to abolish slavery.
 - b. Through the clergy re-moulded the crude and irrational laws of the barbarians so as to make them conform to more nearly our modern notions of civil rights and criminal punishments.
 - c. Through the penitential system heightened the general moral tone and life of the people.
 - d. Used its influence to check war, and soften its miseries and attendant sufferings.
 4. The church was the most powerful agent of the Middle Ages in fostering amongst and transmitting the learning of Southern Europe to the Teutonic people of Western Europe.
 5. From the completed whole. He looks at the whole life and work of the church in its character, purpose, general tendencies upon the civilization of the whole people. He does not attempt to examine every step of its life and organization. He

looks at and judges the life of the church as a whole, just as Americans look at and judge the life of Washington as a whole on every 22d of February; and from this general point of view seeks to point out its benefits and errors.

6. Gregory tried, and largely succeeded, to bring the monasteries into direct connection with the Pope. His purpose was to lift the moral tone of the monks, and strengthen the spiritual life of the church. He was successful in his efforts, and was a great benefactor to the Mediæval church.

The quotation means that the Pope—Gregory—brought the whole religious system—all its officers, and monasteries, and wealth under his own control in a much greater degree than had been accomplished before. This enabled the church to become, for some time, the chief power in Europe.

7. This influence was in the main evil. It kept the laity from exercising any direct influence over the clergy—and thus the clergy was more liable to become corrupt and selfish.

This occurred because the common people could take no part in either electing or dismissing the various officers of the church.

The influence of the Christian public was exerted through this period through public opinion—that is to say—indirectly and not directly.

GRAMMAR.

1. With what unit of language does grammar deal? Illustrate.
2. State the use of each word in the following:
"He travels on, a solitary man;
His age has no companion."
3. Illustrate in sentences four uses of a clause.
4. Illustrate the difference between the indicative mode and the subjunctive mode; explain.
5. Use the word "only" as an adverb and as an adjective.
6. What purpose may literature best serve in the teaching of grammar?

1. Grammar deals with the sentence. If we ask for the case of the word, "pen," it is impossible to tell what case it is until we see it in a sentence. If we say, "The pen is on the table," the word, "pen," is in the nominative case; if we say, "I hold the pen in my hand," it is in the objective case. This shows that in determining case the sentence is the unit. This is true when we are dealing with any point in the subject of grammar.

2. The word, "he," is the subject of the verb, "travels on." The word, "travels on," is a verb, the principal part of the predicate of the first clause. The word, "a," is an adjective modifier of the word "man." The word, "solitary," is an adjective modifier of the word, "man." The word, "man," is a noun, which is in apposition to the word, "he." The word, "his" is a possessive modifier of the word, "age." The word, "age," is a noun, subject of the second clause. The word,

"has," is an attributive verb, principal part of the predicate of the second clause. The word, "know," is an adjective modifier of the word, "companion." The word, "companion," is a noun, used as the direct objective modifier of the word, "has."

3. The clause may be used as follows: (1) As subject of the sentence; e. g., *That he is honest* is admitted. (2) As direct objective modifier; e. g., I know *that he is my friend*. (3) As adjective modifier; e. g., The boy *who is present* is my brother. (4) As adverbial modifier; e. g., We departed *as the sun was rising*.

4. The indicative mode is that property of the verb which shows that the thought expressed by the sentence corresponds to a fact; e. g., The sun is shining brightly. The subjunctive mode is that property of the verb which shows that there is doubt in the mind as to whether the thought expressed by the sentence corresponds to a fact in the external world, or, it shows that the thought expressed by the sentence is a mere supposition and there is no fact in the external world corresponding to it; e. g., If the sun be shining we shall have a pleasant drive. If he were here I should like to see him.

5. As an adjective; e. g., Webster was the *only* man present. As an adverb; e. g., This man to be loved needs *only* to be known.

6. Literature is the source from which the principles of grammar are derived. The child should be led to construct all definitions, all rules, the entire science of grammar, from literature. The sentences used in the study of grammar should be sentences taken from literature and not those "made up" by grammarians to fit their definitions and theories. There is no excuse for spending time on freaks in the study of grammar any more than there is for wasting the time of students in studying freaks in the subject of zoology.

SCIENCE OF EDUCATION.

(Any five.)

1. Which has the richer content, the percept tree or the concept tree? Explain.
2. What is meant by *dead knowledge*? By *living knowledge*?
3. What do we mean when we say that instruction must result in power?
4. Define the will. What is the general relation of the will to the other activities of the mind?
5. What is meant by a strong moral will?
6. On what does the training and development of the will depend?

1. The concept tree has a richer content than the percept tree. This is true in the sense that the concept tree represents the process of knowing the general, and the percept tree represents the process of knowing the particular only. In the concept tree is embodied all the tree experience that one has had. It includes the grasping of the principle underlying the activity of which all trees are a manifestation, and the recognition

tree in one's experience as another manifestation of this activity which only shows itself in trees. It includes all likeness and all difference. The content of the concept would be the measure of all this experience. Now, in the sense that the interpretation stage of a sense-perceptive act would require the use of all one's past experience it might be said that the content of the percept tree is as full as that of the concept tree; but the content as the measure of the mental process would be the larger in the concept.

2. I do not know what is meant by this question, unless by dead knowledge is meant that which one has assimilated, probably in a mechanical way, and which he is not capable of using, or at least does not use. Living knowledge, I should say, is that which one has so thoroughly made a part of himself that he is capable of using it to the fullest extent.

3. The idea of all education is growth. The power gained from instruction is a fair measure of the value of that instruction. Every act of knowing, for instance, has its three stages: first, it is mere existence or presentation; second, it is meaning or interpretation; third, it is the effect which this interpreting activity has upon the mind. This effect represents the power which the mind has gained from the activity performed. Now, all instruction should be such that it will call forth the greatest self-activity and, hence, result in the greatest power possible.

4. The will is regulated, harmonized, impulse. The will is conscious direction towards the realization of some end which is recognized as desirable. The will is two-fold in nature: first, it is the choosing of the end and the selecting of the means for the accomplishment of the end; second, it is the *realizing* of the end. Will is the concrete consciousness. It is the self. It is the consciousness which unites the knowing process thought of as a product, and the feeling process thought of as a state of soul.

5. A strong moral will is one which always acts in the full consciousness of right motives. It always asks the question whether or not the act is right, as set over against prudential will, which asks the question whether or not the result of the act will be beneficial. A strong moral will proceeds from right motives whatever may be the result.

6. The raw material of will is impulse. The will is developed out of impulse. This development comes through doing and knowing. All growth depends upon experience and knowledge. The impulses must be directed away from improper channels into proper channels. With the experience comes the knowledge of what the doing will

bring. Here arises desire. One's system of desires depends altogether on one's experience. Every choice is the selection of a desire which becomes a motive for realization. If one's system of desires is largely made up of proper desires the chances for choice of a wrong desire are very small. Now it will be seen that the development of will depends upon directing the raw impulses into right channels, so that only right systems of desires may be present from which to choose. The end of all training is to change the activity from impulse to activity which is self-directive.

ARITHMETIC.

1. Give the principles of Notation.
2. In teaching compound numbers, with what table would you begin, and why?
3. What is the difference between a problem that can be solved only by addition and one that can be more easily solved by multiplication? Use an illustration to show more clearly your answer than a statement would do.
4. When is a fraction in its lowest terms? Which is in higher terms, $\frac{1}{2}$ or $\frac{1}{3}$? Why? Give full discussion.
5. Compare and contrast common fractions and decimal fractions. Show clearly in what they are alike; in what unlike.
6. George, walking briskly, goes 6,000 steps per hour. He reaches the next village in 40 minutes; how many steps distant is the place? How many miles if each step be 2.7 ft.?
7. What is discount? How many kinds? Name them, then give a suitable problem under each class.
8. The width of my book before it is opened is 9 in. and the length 12; how many inches between the opposite corners after it is opened? What would be the diameter of a circle having an area equal to one side of my book?
9. What is the surface of a cube having solid contents of 6,859 cubic inches?
10. William Brown gives a note at a bank for 90 days. He realizes \$482 on the note. What is its face, money now being worth 8 per cent?

1. By notation is meant the writing of numbers, and McLellan and Dewey say in "Psychology of Number" that the order followed is first the idea, then the name, and last the order.

They say the child is given the digits and zero and he knows their significance. They show that the notation follows the number idea without effort, almost. To some extent the same principles underlie notation that underlie numeration. Some of them are, Ten units of one order of the decimal scale make one unit of the next higher, or conversely. One unit of one order of the decimal scale makes ten of the next lower, or another statement of the same thing. Units of the decimal scale increase in a tenfold ratio from right to left, and decrease in a tenfold ratio from left to right.

2. The table with which one should begin in teaching compound numbers should be determined by the knowledge of the pupils to be taught. It should for various reasons be the one with which they, as a class, are the most familiar.

There is, at least, one reason why the United States money table should be taught first. Its units bear the same relations to each other that the units of the decimal scale bear to each other:

besides, it is a table that the majority of pupils know most about.

3. The difference between a problem that can be solved only by addition and one that can be solved more easily by multiplication is, that to solve by addition the addends are not all the same, but to solve by multiplication the addends must be all alike, so that one of them can be taken as the multiplicand and the number of equal addends can be taken as the multiplier. For example, A buys three farms—the first cost \$6,786, the second \$4,763, and the third \$5,796; what do the three cost him? This can be solved only by addition. A buys three farms for \$5,000 each, what do they cost him? This can be worked more easily by multiplication.

4. A fraction is in its lowest terms when there is no common factor in the numerator and denominator. $\frac{1}{2}$ and $\frac{3}{4}$ are both in their lowest terms. Highest and lowest terms are not generally used in comparison of two fractions, but in the comparison of the different forms of the same fraction. Hence, the question as to which fraction is in higher terms, $\frac{1}{2}$ or $\frac{3}{4}$, seems to be a little out of place. It may be possible that $\frac{3}{4}$ is considered in higher terms than $\frac{1}{2}$, but I see no good reason for this unless it be that 3 is a higher term than 2.

5. Common fractions and decimal fractions are alike in that they both express parts of wholes or units. In the common fraction the unit is divided into any number of parts, and a certain number of them is expressed. In decimal fractions the unit is divided into ten, a hundred, a thousand, or some other multiple of ten parts, and a certain number of them is taken. In common fractions the number of parts into which the unit is divided is shown by its denominator, while in decimal fractions the number of parts into which the unit is divided is shown by the place which the number occupies in the decimal scale.

6. Forty min. is $\frac{2}{3}$ hr. In $\frac{2}{3}$ of an hour George will take $\frac{2}{3}$ of 6,000 steps, or 4,000 steps. If he steps 2 ft. 7 in., or $2\frac{7}{12}$ ft. per step, in 4,000 steps he would walk $11,366\frac{2}{3}$ ft., or 2 ms. 48 rd. 4 yd. 2 ft. 8 in.

7. Discount is the amount allowed a first party by a second party of a transaction upon certain conditions which are in favor of the second party. There are three kinds of discount; viz., true, bank and trade or commercial. The following is a problem in true discount: I owe J. F. Wilson a note of \$100 due in six months without interest. If money is worth 8% to him, how much will he discount my note for the cash at present time?

This is a problem for bank discount: I wish to borrow enough money from a bank for 90 days to

pay a debt of \$100. The bank will charge 8% interest; for how much must I give my note?

This is a problem in true discount: A buys goods the list price of which is \$100; he gets 10, 10 and 5 off. What do the goods cost?

8. a. Considering the book without thickness it will form a rectangle when opened the dimensions of which are 18 in. and 12 in. The distance between the opposite corners will be the length of the diagonal of this rectangle. The diagonal will be $\sqrt{18^2 + 12^2}$ or $6\sqrt{13}$ or 21.63+ \therefore the diagonal or distance is 21.63+ in.

b. The area of one side of the book = 9×12 or 108 sq. in. Then the area of the circle must be 108 sq. in., but the area of the circle = πR^2 , then $R^2 = 34.3773$ sq. in. $R = 5.86$ + in. \therefore the diameter = 11.72 in.

9. If a cube has for its solid contents 6859 cu. in. its edge = $\sqrt[3]{6859}$ or 19 in. If the edge of the cube is 19 in. the surface of each face = 19^2 or 361 sq. in. There are six faces, \therefore total area = 6×361 sq. in. or 2166 sq. in.

10. The proceeds on \$1.00 for 93 days at 8% in the bank would be found as follows:

Int. on \$1.00 for 90 days at 8% = \$.02.

Int. on \$1.00 for 3 days at 8% = \$.0006 $\frac{2}{3}$.

Int. on \$1.00 for 93 days at 8% = \$.0206 $\frac{2}{3}$.

Proceeds would be \$1.00 - \$.0206 $\frac{2}{3}$, or \$.9793 $\frac{1}{3}$.

Then \$482 is proceeds on as many dollars as \$.9793 $\frac{1}{3}$ is contained times in \$482, or 492.17.

\therefore the face of the note would be \$492.17+.

PHYSIOLOGY.

(Any five.)

1. To what extent would you employ the microscope in teaching Physiology in the public schools?
2. How does nutrition differ from reproduction?
3. Describe the spinal column.
4. What is the function of the liver?
5. How do the bones of a child differ from those of an adult?
6. Why do we need sleep?
7. Describe the internal structure of the ear.
8. What are some of the evil effects of tight lacing?
9. If the brain is the seat of sensation, why, when the hand is injured, do we not feel the pain in the brain itself?

1. In the public schools, the microscope could be advantageously employed in showing the actual appearance of the tissues on prepared mounts. Fresh mounts of blood, and of some of the simpler tissues, are often more satisfactory than permanent ones.

2. Nutrition includes those processes concerned in replenishing the wastes of a living cell, and in adding to its growth, while reproduction is the process by which one cell gives rise to one or more derived cells. In terms of the whole body, nutrition concerns itself with the continued growth and life of the body, reproduction with the ^{renewal} of the origination of a new body.

3. The spinal column consists of twenty-four vertebrae, a sacrum of five fused vertebrae, and a coccyx of two, three, or four fused and reduced vertebrae. Of the twenty-four vertebrae, seven are cervical, twelve are dorsal and five are lumbar. The column has two double curvatures in it, like an elongated S, and to further aid in making the column able to break jars on it, elastic pads of cartilage are placed between the vertebrae. The first (atlas) and second (axis) cervical vertebrae are peculiarly developed. The prime function of the column is to form the axis of support for the body, and to protect the contained spinal cord.

4. The functions of the liver are :

- (1) To secrete the bile.
- (2) To store the excess sugar (*glycogen*) from meal to meal.
- (3) To oxidize the wastes of the body into the compound called *urea*, which is then excreted by the kidneys.
- (4) To oxidize the excess of albumens taken into the blood into urea and other compounds.

5. The bones of a child differ from those of an adult in containing a much less proportion of mineral matter, and in having large portions of the original cartilage still unossified.

6. The main purpose of sleep is to afford the central nervous system an ample time of practically complete inactivity in order to recuperate from the continued regular work.

7. The internal ear consists of a membranous sac-like vestibule which receives the sound from the stapes. Connected with this sac are three semi-circular canals arranged in the three planes of a cube. The canals filled with lymph, and containing sensitive ampule, serve to indicate the equilibrium and change of direction of the body. On the forward side, the vestibule touches the cochlea, a spiral of two and one-half turns, divided into three separate portions, except at the hamulus. In the upper or scala vestibule the sound waves enter the cochlea from the vestibule, and run to the top of the spiral, then through the hamulus down through the scala tympani which by means of the sound foramen allows the waves to return to the middle ear. On passing down the scala tympani, the sound waves touch the basilar membrane and set the proper strings in vibration, which vibration then by means of the rods of Corti and the sensitive cells on the basilar membrane is carried to the brain and interpreted as sound.

8. The evil effects of tight lacing on the ability to breathe deeply, and on the distortion of the visceral organs are perfectly apparent.

9. When the hand is injured, although the real

sensation is in the brain, we imagine the *sensatio* residing in the hand, because by repeated experience we have learned that the origin of this peculiar sensation was in the hand, and this repeated experience crystallizing into a habit, and finally belief, leads us to *infer* at once that it is the hand that hurts.

READING.

1. "In primary reading, the learner should proceed from meaning to form, from idea or thought to the word sentence expressing it." Show that the word and sentence methods are in harmony with the above idea. Is the Indiana First Reader made in harmony with this idea?
2. Show clearly that the child becomes much more so helpful in learning to pronounce from the relation the letters in the word than from diacritical marks.
3. Show that the end a teacher desires to reach in a given lesson determines the *preparation* of same.
4. Mention five suitable books for supplementary reading third grade, giving reasons for books selected.
5. What do you regard as the limit of a safe and profitable correlation of studies, taking reading as the center?
6. Read a selection to the County Superintendent?

1. The word is the expression or symbol of an idea, while the sentence is the expression of thought—of a relation between ideas. The word and sentence methods are thus in harmony with the principle stated. The Indiana First Reader is based on this idea.

2. The fundamental ideas of pronunciation are based upon the relations which the letters in a word bear to each other. The diacritical mark shows this relation. To know the relations of the letters does away with the necessity for marks, and thus makes the pupil independent.

3. The *preparation* is a sort of foundation for the rest of the lesson. If it is the aim of the lesson to present some special point, emphasis may be thrown upon those elements in the preparation which point toward or prepare for this special idea.

4. See the very fine list given by the American Book Company on the last page of our cover.

SCIENTIFIC TEMPERANCE.

(Any five.)

1. What products result from the oxidation of an animal tissue?
2. Does alcohol undergo any chemical change in the animal body? In what way does it act differently upon the tissues of the animal body?
3. Is the temperature of the body increased by a drink of alcohol?
4. What is the function of the red corpuscles of the blood? What is the effect which alcohol has upon the red corpuscles? This, in turn, produces what effect?
5. What is the difference between a stimulant and a narcotic?
6. Why is smoking especially dangerous for people who have not completed their physical growth?

1. Water, carbon, dioxide, creatin, creatinin and sarcosolactic acid. The final product of the creatin and the creatinin is the urea of the liver.

2. Much of the alcohol taken into the body undergoes no chemical change. Many hold that none is changed. Others hold that part is. (2

Oxidation of some tissues is retarded, nervous tissue is robbed of its water, and fatty tissue is "stored."

3. Dr. N. S. Davis of Chicago, after an extensive series of experiments, said: "These experiments proved that after taking alcohol the temperature begins to fall within half an hour, and continues to decrease for from two to three hours. The extent and duration of the reduction was in direct proportion to the amount of alcohol taken." It is held by some scientists that for the first half hour after drinking the temperature is slightly increased, but all agree that it then falls from one to three degrees.

4. The function of the red corpuscles is to carry oxygen to all portions of the system. Alcohol robs the corpuscles of their oxygen and degenerates them and thus interferes with oxidation.

5. Gustafson gives the following: "I will define stimulant to mean such food, medicine or exercise as would, in itself, be energizing. Narcotics, on the contrary, are poisons of a paralyzing nature."

6. The late Dr. Benjamin Ward Richardson says on this point: "The effects of tobacco, often severe even upon those who have attained to manhood, are especially severe upon the young who are still in the stage of adolescence. In them it causes impairment of growth, premature manhood, and physical prostration."

TOUCHING TEACHING: A CONVERSATION.

Teacher—"Now I am going to tell you frankly what I think, my friend. It is that you do not do either the teacher or the teacher's profession justice. Come, now;—don't you belittle both of them unconscionably; as, for instance, when you intimate, as you do in one thing, at least, that you have launched forth in cold and deadly print, that teachers must be lacking or they would not keep at it?"

Ex-teacher—"Whether they are lacking or not depends upon the point of view,—not of you or me, but of themselves."

Teacher—"How is that?"

Ex-teacher—"If a woman goes into the unrecompensed and inadequately recognized vocation of teaching, what is there for her but the veriest drudgery, with its consequent loss of the joy of life, its death to ambition, its stultifying of the powers of intellect, its narrowing of the sphere, unless indeed, she be uplifted, buoyed up by a purpose as ennobling, as unflinching as ever actuated a Father Damien, or a Sister Rose, going forth among the lepers to do battle for humanity!"

Teacher (horrifiedly).—"But you surely do not mean to compare children with lepers!"

Ex-teacher.—"No; and yet who can doubt that there should be as great a consecration of purpose in the lives of those who would form the tender minds, and who, whether they would or not, incorporate themselves, to a greater or less extent, into the very souls of their young charges, as in those who would minister to bodies diseased? Now, you cannot say, *Physician, heal thyself*, because I'm out of it! I got out of it just as soon as it began to be borne in upon me,—the utter inadequacy of my soul to take upon itself the burden, the heroism of a life of martyrdom;—although, to be sure, if one had that something that enables the spirit to *see*, and yet not to falter, it would not be a life of martyrdom. Every semblance to such a life would drop off as a cloak; and, the equilibrium preserved, the teacher would rise radiant, free,—a being far above the common herd, one to be admired, worshipped! A Margaret Fuller, a Horace Mann, a Pestalozzi,—who can measure the influence of such an one for good?"

Teacher.—"How many do you think there are of such?"

Ex-teacher.—"Heaven forbid that I should rack my brains sufficiently to get even an approximate estimate; but, considering simply those who are engrossed in the work, and who would not care to change their employment should an opportunity present itself, I should say about one or two in a hundred. I base my calculation upon the number of teachers,—from the Atlantic to the Pacific, whom I have interviewed upon the subject. This does not include beginners, who do not know whereof they speak, nor principals, who are generally wily enough to keep their thoughts to themselves. Well, out of the lot there were but two—positively two, who did not inveigh bitterly against the 'demnition grind.'"

Teacher—"Your assertions are pretty sweeping."

Ex-teacher—"But they are true. And now listen to what the master of one of your largest schools right here in Boston said to me when I told him that I was out of teaching for good and that not all of the wealth of the Indies could tempt me to go back: 'I congratulate you,—and I do not believe there is a teacher in the city of Boston—unless it is someone just beginning—who would not say the very same thing!'"

"From the other extreme of the continent,—from Superintendent Babcock, of San Francisco, comes this:

"No work so thoroughly exhausts the very nerve force and leaves bare every fibre of one's life as does the teacher's!"

Teacher.—"Well, what are you — about it? Somebody must teach—somebodies!"

Ex-teacher.—“That brings us back to the original proposition. Let them be Father Damiens and Sister Roses, then. As I have said, such high ideals, such consecration of purpose will lift them above the ills of the flesh, the deadly weariness of the spirit which almost invariably are necessary concomitants of the work. If you say that there are not enough to go around, I can only reply that I do not pretend to offer solutions for the problems of the universe. All I can do is to suggest that while the offense must needs come, woe be unto him by whom it cometh!”

ELEANOR ROOT.

BOSTON, MASS.

“A LITTLE CHILD SHALL LEAD THEM.”

In the educational world is growing the realization, in a practical way, that “the hand that rocks the cradle rules the world.” The importance of the first years of the child’s life is beginning to be acknowledged; his physical welfare has become a recognized study, for it is seen that the health and strength of maturity depends upon this early growth. Until the time of Froebel, the founder of the kindergarten system, scarcely any thought was given to the right or wrong training of the infant’s natural instincts; few people dreamed that this had ought to do with the development of character in succeeding years.

The child’s manifestations of these inborn instincts have been laughed at, played with, and even related as interesting anecdotes by the fond mother,—the thought that they are worthy of serious study seldom entering the mind of the average parent. * * * Investigation of apparently insignificant instincts shows them to be the germ of world-wide and ever-enduring truths.

* * * One of the greatest lines of the world’s work lies here before us: the understanding of little children, in order that they may be properly trained. Correctly understood, it demands of woman her highest endeavor, the broadest culture, the most complete command of herself, and the understanding of her resources and environments. It demands of her that she become a physician, an artist, a teacher, a poet, a philosopher, a priest. In return, it gives her an insight into science, into history, into art, into literature, into human nature, such as no other culture can command, because each of these realms has to be entered that its wealth may be conquered as an aid in rightly understanding the little child entrusted to her care, not for the added glory it will bring to her.

The following facts place this study of child-culture upon the broad basis of a science.

FIRST: THE CHILD BEARS WITHIN HIMSELF IN-

STINCTS WHICH CAN BE TRAINED UPWARD OR DOWNWARD.

SECOND: THESE INSTINCTS GIVE EARLY MANIFESTATIONS OF THEIR EXISTENCE.

THIRD: THE MOTHER’S (OR TEACHER’S) LOVING GUIDANCE CAN BE CHANGED FROM UNCERTAIN INSTINCT INTO UNHESITATING INSIGHT.

—*A Study of Child-Nature* by ELIZABETH HARRISON.

READING NOTICES.

Synonyms, Antonyms and Prepositions.

The more thorough study of the English language is receiving recognition as an essential part of educational work in America. Our colleges, academies, and high-schools have added the English Classics to the Latin and Greek, French and German of the earlier curriculums, and are steadily advancing the work and the standard of the English department. An entirely new work on English Synonyms is especially timely and welcome. Such a book has just been published by Funk & Wagnalls Company, New York. It is entitled “English Synonyms, Antonyms and Prepositions.” Scarcely any two words called synonyms have exactly the same meaning. Heretofore, in collections of synonyms only the list of words has been furnished, and the user has been obliged to make his own discrimination. In this book, the different shades of meaning in all the 7,500 synonyms are compared and contrasted, and the difference of meaning and usage explained. The great value of synonyms as contributing beauty and effectiveness to expression depends upon this discrimination.

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THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

APRIL, 1897

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A JOURNAL FOR THE PROGRESSIVE TEACHER.

VOL. IV.

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No. 3.

FIVE GREAT MASTERPIECES OF PAINTING.

PROFESSOR LOUIS J. RETTGER.

AT LAST we were about to see a "Great Painting." On that very morning The Royal Picture Gallery in The Hague was to be visited, and we were to get an actual glimpse of the Masters. The mental processes of the uninitiated denizen of the West when he is about to take his first view of a picture which the judgment of time has immortalized as a masterpiece, are peculiarly involved—a medley of expectancy and uncertainty.

From the education of the average American student, the realms of painting and sculpture are practically omitted, and the person who is familiar with the literary productions of several languages, and with the scientific progress of the age, who has read extensively on social and religious problems,

who knows the roll of great names from King Menes of Memphis to Queen Victoria, and our own presidents, finds himself often, practically in total ignorance when it comes to the field of art, and he

is no more able to distinguish between the shades of a Rem-

brandt and the tints of a Titian than the beginner in Latin between a line from the *Æneid* and the *Metamorphosis* of Ovid.

It is not at all difficult to understand the lack of instruction in this field. Great pictures cannot be duplicated like great literary and scientific productions, and the paint-

er of a masterpiece is never obliged to secure a copyright on his work. There is but one "Sistine Madonna" in the world, in spite of thousands of copies of it, and the



"MADONNA DEL SEDIA."
(Madonna of the Chair.)

blending of colors in Murillo's "Immaculate Conception" has never yet appeared on any of its replicas. It is almost as unsatisfactory to study the ceiling paintings in the Sistine Chapel away from Rome, be their reproductions ever so good, as to depict the majesty of the ocean on a western prairie.

While it is true that the art of painting cannot be studied to its best advantage away from the great galleries of Europe, while a faithful copy does fall far short of the genius of the original, many a person must have regretted, sincerely, that he was not led to understand even the subject-matter of

great paintings. Lack of definite information leads to imaginative speculation. Repeated references to the greatness of these pictorial productions lead us to invest these pictures with a specula-

tive halo, as the child does with his characters from Fairyland, or the poet did with the barbaric splendor of "Ormus and of Ind."

When the hour for the opening of the gallery had arrived, and the party of untutored art-critics took its way thither, no one knew just what to expect. Repeated reading of the guide books to the gallery had confused, rather than helped us. Each wondered whether the canvas might not possess a magic iridescence, so that colors might seem to be melting and reforming while you looked at it. What imperially dramatic situations the painter must have chosen! What deep philosophy must they reveal!

The mere scenic setting of the picture might be a new revelation of Nature to the man who had seen nothing better than a sunset on an American landscape.

With all this acknowledged greatness is the lingering suspicion that one is to be hugely disappointed. One feels tempted to at once hire a learned guide, and by this critic be ushered into the mysteries of greatness in painting.

This, with lesser or greater exactness, is probably the mental attitude of most persons on their introduction to European galleries. But how different when one has seen

and studied them! Instead of scenes unusual and dramatic, we have depicted the simple vicissitudes of everyday life. Soon the revelation dawns on one that the greatness of a picture is



REMBRANDT'S "SCHOOL OF ANATOMY."

due to its sublime simplicity. Persons who go into the Pitti Palace at Florence expecting to be overawed by the celestial grandeur of the "Madonna del Sedia," leave it, touched by the simple story of motherhood which it portrays. It is the genius of a master to take the commonplace in life, to take that which lives in the experiences of every one, and give its truer and deeper meaning.

The rapid succession of our varied experiences, each crowded out by a succeeding one before we have had time to contemplate it, gives an air of monotony to many things which, if studied singly and alone, would

yield suggestions of universal truth and beauty, to find which, is the artist's province.

A rapidly rotating wheel seen by ordinary daylight shows its individual spokes lost and blended in one continuous whirling haze, but lighted up in the dark by an electric spark the wheel seems for the moment to have stopped, and the individual spokes stand out in perfect clearness. So, in the whirligig of life, which seems to most one indistinct maze of events; the painter, by a flash of genius, lights up a momentary situ-

these pictures? Does the perfected skill of the brush figure for nothing? Is a great picture nothing but a reflection of man's inner life? Color is the *language* of the painter, and tint and shade his rhythm; and the painter is but a poet in another plastic form of speech. As Gray's *Elegy*, as Holmes' *The Chambered Nautilus*, as Lowell's *Sir Launfal* cannot be stripped of their language without practical annihilation, neither can a masterpiece of painting be clothed with anything less than an artist's perfected skill. It



RAPHAEL'S "PARNASSUS."

ation, seems to stop the course of things for a time and crystallizes the situation in a form to be studied at leisure.

It was Emerson, who, after having seen the works of the Italian masters, said that he found in them what he thought he had left behind in his own home—his every-day life. He had gone four thousand miles over land and sea to find portrayed in color and shade what he had already lived in thought and feeling.

Is there, then, nothing in the coloring of

is the very perfection of mechanical skill that renders us unconscious of it.

It is not intended to enter into a critical dissertation on art in this paper; indeed, to the writer such a possibility is precluded, but it is desired to call particular attention to a few masterpieces, acknowledged as such by critic and layman alike. The continued and lingering crowds that daily gather around these pictures in the galleries where they are displayed, in the amplest way corroborate the judgment of time and critics.

The pictures selected are Rembrandt's "School of Anatomy," Murillo's "Immaculate Conception," Michael Angelo's "Holy Family" and Raphael's "Parnassus" and his "Madonna del Sedia."

Another might have varied this selection; in every man's preference lies his personal shadow, but no one in visiting the miles of European galleries would have failed in having these pictures stand out in his mind in a peculiarly prominent way. Guides need not point them out; there is no danger of passing them unobserved. In them, genius is so genuine, that it needs no interpreter.

The "School of Anatomy" was painted in 1632 by Rembrandt van Ryn, the greatest of the Dutch painters. When we recall that Dutch art stands next to Italian, Rembrandt's pre-eminence is at once apparent. The picture was painted to adorn the hall of the guild of surgeons at Amsterdam. The picture represents the learned Professor Tulp delivering a lecture on anatomy to seven elders of the guild of surgeons.

The accuracy of the whole picture shows that it was painted from actual originals.

The listeners are depicted with varying intensities of interest in the erudite discourse, while the lecturer is in the act of explaining the function of the tendon which he has laid bare, by showing upon the fingers of his own left hand, the movements which this tendon controls. Although the corpse is strongly lighted in contra-distinction to

the shadowy background which holds the other figures, it is the remarkable property of this picture that the attention of the observer is drawn more to the living than to the dead. It has been said by critics that this picture, more than any other in the world, exhibits in a true and life-like way, the working of human intellect. Remaining a long time in the dissecting room at Amsterdam, it was finally bought by King William I. of Holland for



MURILLO'S "IMMACULATE CONCEPTION."

\$16,000, and placed by him in the royal picture gallery at The Hague which it now adorns.

The greatness of Rembrandt consisted in his breaking away from the traditions of the painters before him. Instead of decorating palaces and cathedrals with scenes from mythology and tradition, Rembrandt re-

flected in his paintings the every-day life of the Dutch people themselves. The fisherman of Scheveningen, the peddler at his back door, the beggar on the street corner, the market woman with her dog and cart, all these contributed material to his creations. The rustic duties of the peasant, no less than the deeds of the princes claimed his attention. In all this diversity of characters there is such fidelity to life that it ranks Rembrandt as one of the keenest interpreters of human nature.

He has been repeatedly called the Shakespeare of painting, and true it is, that between these two northern geniuses in their multiplicity of characters, in their depth of insight, in their width of experience, and their bent of fancy there is much that is kindred.

Possibly the gem of the Louvre Art Gallery in Paris is the "Immaculate Conception" by Murillo. It represents the Virgin surrounded by a galaxy of cherubs, her foot resting on the moon, and clothed with the sun, lost in the ecstasy of the incarnation, and in the contemplation of the Divine.

The Virgin here, unlike most pictures of her, has the dark hair and eyes of the Spaniard, in whose country and by whom it was painted.

The rosy-tinted, sunny background in which the cherubs float, and against which

in her snowy dress and bright blue mantle the Virgin stands in marked relief, makes the picture one of indescribable beauty.

'Tis a current saying that if its authorship were not definitely known, some certain tradition would have had it produced in Heaven.

This wonderful harmony of its coloring is, of course, entirely lost in all engravings of it. As long as the eye will be charmed by the magic of color, and as long as the human heart will have aspirations Heavenward, this picture will not lose its pre-eminent place.

The picture was painted for a hospital of Murillo's native city, Sevilla, Spain, in 1687. When, in 1810, Napoleon confiscated all religious property in Spain, this picture was carried to France as a war trophy by one of Napoleon's marshals. On the death of the marshal, in 1852, it was bought by Napoleon III. for about \$125,000 and placed in the Louvre collection.

In the Tribuna of the Uffizi Palace in Florence, a room that contains an almost unparalleled collection of great works of art, is the only easel picture in Italy by Michael Angelo. It is "The Holy Family."

It is one of the earlier productions of the great master, but it shows the genius of the gifted Angelo.

The picture represents the Virgin kneeling on the ground, and holding the infant Christ



MICHAEL ANGELO'S "HOLY FAMILY."

over her shoulder to her husband. To the right and back we see little John the Baptist admiring this domestic scene.

The thought to make the infant Christ and the little John the Baptist playmates and companions, repeatedly occurs in Italian art. In the distant background are groups of nude figures which have no connection with the picture, and were introduced to show the artist's power in delineating figures.

While possibly inferior in workmanship and beauty to several of Raphael's Madonnas, this picture at once betrays the genius that was later to paint the immortal ceiling of the Sistine Chapel in the Vatican at Rome. The complexity and extent of this ceiling-painting forbids its illustration in this article. By many critics this production is considered the acme of the pictorial art. On the ceiling of this large chapel Michael Angelo, with a master's touch and an artist's creative genius, depicts scenes from the Bible; such as the days of creation, the fall of man and his expulsion from Paradise.

Michael Angelo was a sculptor rather than a painter, and his paintings were generally produced under protest. As a mere youth he showed such proficiency in the sculptor's art that he drew to himself the attention of his superiors and the jealousy of his rivals. After one of Angelo's productions a fellow-pupil of his in the art school at Florence, in a fit of jealousy, struck Angelo in the face with such force as to break his nose, a disfigurement he carried throughout his life. His skill as a sculptor soon reached the ears of Pope Julius, and he was called to Rome to cut out of marble a magnificent mausoleum for the Pope. With his heart in his work, and his expectations of success ablaze, with over a thousand blocks of Carrara marble brought to the hill of the Vatican, he started in to create what the Pope desired to be the most gorgeous mausoleum of all. The mausoleum was to be placed in the old St. Peter's, but as it neared completion it became evident to the Pope that the old St. Peter's Church was too small to house

this stupendous work of art. The artistic beauty of the many figures that were to adorn this mausoleum, aroused the jealousy of rival artists, and finally Bramante, one of these, suggested to the Pope the desirability of building a new and larger church to hold his gorgeous mausoleum, and at once submitted plans to him for such a stupendous structure. The Pope enthusiastically accepted this fascinating suggestion, and Angelo was at once ordered to quit work until the new church should be finished.

Bramante's plans were adopted, and thus out of the rivalry of artists was born St. Peter's—the greatest structure of Christendom. Although Bramante was to superintend the erection of the new magnificent edifice he feared the presence of his rival, Michael Angelo. Knowing that the Pope entertained the highest opinion of Angelo's artistic skill, Bramante was obliged to think of shrewder ways to down his rival. At last a happy thought occurred to him. He suggested to the Pope that Angelo be commissioned to paint the Sistine Chapel. Fully believing that Angelo would make a failure of this, and so induce his immediate downfall as an artist, every pressure was brought to bear upon the Pope to consummate this arrangement. But Angelo, stung at his disappointment in the mausoleum, for a long time persistently refused, but finally yielded to the papal command. Thus was born the Sistine ceiling. The intrigues of rivals were to be the occasion to draw out to the fullest extent the divine genius of the gifted Angelo.

It is needless to say Michael Angelo's downfall did not occur, but on the contrary he was later on called by the Pope to continue the erection of St. Peter's, and the magnificent dome that crowns that cathedral places Angelo as a genius in the realm of architecture as high as his Sistine Chapel in painting, or his Moses in sculpture, and so possibly makes him the greatest artistic genius that ever lived.

That remarkable treasure-house of art, the

Vatican at Rome, that contains so much that is immortal of ancient and mediæval art, contains among many other mural paintings the "Parnassus," by Raphael. The picture represents the top of Mount Parnassus, the dwelling place of Apollo and the Muses. Sitting on the top of the mountain under a laurel tree is the god Apollo playing the violin. Raphael chose the Italian violin instead of the classic lyre, because he thought the violin more than any other the prince of musical instruments. Compared with a Stradivarius the ancient lyre had no music at all. Surrounding the god Apollo are the nine Muses, the impersonifications of the knowledge and the arts in which human genius is self-displayed. To the left of the Muses, but on the top of the mountain, stands the blind Homer, who, under the spell of the music of Apollo, bursts forth into song. Immediately before Homer sits an eagerly-listening Greek youth, anxious to write down the songs of this bard. Just behind Homer to the right and left we recognize the features of Dante and Virgil. Lower down in the left side of the picture the face of the Italian poet Petrarch is visible from behind the stem of the laurel tree, while in the foreground of the picture, with her arm leaning on the window (an actual window in the wall, by the way), is the Greek poetess Sappho. The other figures on that side have not been identified. On the right side of the picture we see the portraits of a row of poets; the two in the foreground being Horace and Pindar. The poetic ideas embodied, the harmony of its arrangement, the suggestions which it awakens—all these will be the more evident the more the picture is studied.

In the Pitti Palace at Florence hangs, of all of Raphael's productions, his sweetest

and most popular one—the "Madonna del Sedia."

True it is that critics generally have pronounced his "Sistine Madonna," now in the art gallery at Dresden, as his finest work. This picture, familiar to all, with its innocent cherubs, with the revering Pope on the left and the adoring St. Barbara on the right, with the Madonna suddenly revealing herself from behind the curtains holding the Child in her arms, and immersed in a celestial halo, is possibly the greatest artistic creation of the world.

But it is the "Madonna del Sedia" which touches us most, perhaps, because it is the most mundane of all the Madonnas. The Virgin here is but a mother, lost in the contentment and the happiness of her possession.

"Could you have seen the heavenly light
That rested in His eyes,
Could you have kissed that golden hair
And drank those holy sighs,
You would have been His living maid
As joyfully as I,
Content to hold your little King
And let the world go by."

The clinging Infant portrays the mutual love between mother and Son, while the little John the Baptist pays devotion to this picture of domestic happiness. Tradition has it that this picture was suggested to Raphael while passing down the street. Charmed by the view, he, on the spot, delineated the scene on the end of a barrel close by; whence its round form.

The picture is, however, not a mere sketch from nature; it embodies Raphael's highest creative genius. Neither is it necessary to view this picture in its religious sense, for it will never cease to touch the hearts of men as long as there are homes where motherhood is sacred, and baby fingers are a continued benediction.

TERRE HAUTE, IND.

THE STORY OF A BOULDER.—II.

AN INDOOR LESSON.

PROFESSOR D. W. DENNIS.

“**T**HUS the Seer,
 With vision clear,
 Sees forms appear and disappear,
 In the perpetual round of strange,
 Mysterious change
 From birth to death, from death to birth,
 From earth to heaven, from heaven to earth;
 Till glimpses more sublime
 Of things, unseen before,
 Unto his wondering eyes reveal
 The Universe as an immeasurable wheel
 Turning forevermore
 In the rapid and rushing river of Time.”

Review.

“In our last lesson,” said Miss B., “we considered the birth of stratified rocks; i. e., rocks spread out in layers by water over the bottom of a deep or shallow sea or lake; such rocks may consist of a great variety of material. In the quarry from which our boulder came it was fragments of granite that were stratified. It is often sandstone like this”—and Miss B. presented a fine stone which she said came from the sandstone quarries of Parke county, Indiana. “It is often clay, which may be subsequently changed into slates by heat and pressure.”

James, who has spent a portion of several winters in Florida, asked if what they called there coquina rock is not a stratified rock. Miss B. answered “yes,” as she took a piece from her tray of specimens and showed it to her class. As the specimen was being examined John asked—“Are not all our river rocks here stratified rocks? they are composed almost entirely of shells.” Miss B. answered with a specimen of our flag-stones, which had fifty sea-shells in it, all the same side up, and it was speedily concluded that this rock was formed in a somewhat deep sea, that the shells had settled in quiet water as gravity inclined them. Miss B. further explained: “Such stratified shell rocks may be made of shells of any size; they may be microscopic like the shells which made the layer of chalk a thousand feet deep under England and Europe generally. Such a layer of chalk is forming now out of the same kind of shells at the bottom of the Atlantic, along the line of the cable.” George, whose father has just returned from Egypt, said: “We have at home a piece of nummulitic limestone which was taken from the base on which rested Cleopatra’s Needle, now in New York.” “That also,” said Miss B., “is stratified rock; the water builds up rocks out of whatever

material is at hand—clay, sand, shells or granite whenever we see large rock masses we ought at once to inquire whether they are where they were made or are strangers that have come from some distant home-quarry. It was by such studies that the boulder journeys given in our lesson have been established.

How did these boulders make the journey Carlyle says: “The present time, child and he of all the past and parent of all the future.”

“Sir Charles Lyell geologized in all countries and climes, and the chapters in his ‘Principles of Geology’ are but so many sermons on this text ‘So long,’ said Lyell, ‘as we feel sure that in existing nature we have a key for interpreting the past we need never despair.’ When men have seen that great boulders, accompanied by millions of tons of clay, sand and gravel, had been carried to such distances in Europe and America they naturally sought an explanation in boulder and soil journeys now taking place. It was known that vast icebergs are floated down to the banks of Newfoundland every year from Greenland, and that they bring boulders, gravel and earth with them on their journey, which they drop where they melt in the warmer waters of the South; and an iceberg theory of the transportation of our boulders was put forward. This, however, requires a sea over all our Northern states at the time of the drift deep enough to float these icebergs; such a sea would have left indubitable evidence of its existence, in the way of shells, skeletons of whales and fishes and remains of other sea fauna and flora which are nowhere in Indiana to be found in the drift. Such a sea would somewhere have had a shore near which it would have stratified the beach-worn material, and this is nowhere to be found.

What Agassiz did in the Alps.

“On the 28th of May, 1807, a boy was born in Motier, in sight of the Bernese Alps, who was destined to throw more light on our Indiana boulder journeys than all other boys that have ever been born. This was Agassiz. No one who has seen the Alps can ever forget or neglect the sight Agassiz saw them from near and from afar; from above and from below, and even from within, the vast fields of snow becoming more and more compact from above, downward until they end in those long, narrow, deep streams of ice called

glaciers, that fill so many gorges and valleys, the bold, bare peaks of rock that dwell with frost, even under a summer sky, the streams that lead down from the melting glaciers to the fertile expanses of Switzerland, the strange boulders scattered all over these Swiss plains, their homes the highest Alps—all these things familiar to him in boyhood, were the profound study of his maturer years. Did the glaciers move? Nobody was sure. Rocks on the glaciers had been observed lower down from year to year, but perhaps they slid down; Agassiz would see, and he planted a row of posts in the ice some five feet deep in line with familiar points on the sides of the gorge that was filled by the ice. The next summer he returned and found that his posts were all lying flat on the ice. Disappointment settled one point, the glacier wastes away by melting at the top some five feet every year; posts were now planted eighteen feet in the ice and cut off at the top level with the surface. When he returned the next year they had all moved down the valley, those at the center farthest; *i. e.*, the glacier moves fastest at the center; the posts, though planted perpendicularly, all inclined down stream; *i. e.*, the glacier moves fastest at the top. At the confluence of two valleys it was found that one glacier becomes tributary to another, like two streams of water that meet, and in this way compound glaciers are formed, made up of glaciers from several valleys. How deep was the ice? Agassiz would measure it; and he took a hundred feet of iron rod for that purpose; it would not reach; the next year he took two hundred feet with no better success; it required a thousand feet to measure the Aar glacier.

"What was the structure of the ice within? Agassiz turned aside a surface stream of water on the glacier from a large opening, in which it lost itself, and at greater risk than he knew at the time, caused himself to be lowered one hundred and twenty-five feet into the ice. Thus, summer after summer, he studied the glacier until he knew it.

"Sometimes the glaciers of the Alps extend farther down the valleys than they do at other times. In local records Agassiz found an account of a road between two points, now separated by the Aletsch glacier; he discovered this ancient road and traced its pavement down to where it disappears under the ice. By studying valleys carefully from which glaciers had recently receded, Agassiz familiarized himself with the signs or tracks which a glacier leaves behind when it disappears. As a glacier melts at its lowermost limit it drops its burden of stones in certain lines, called moraines. There is a line of stones on each side of the glacier; these are called lateral mo-

raines; they are usually of different kinds of stones, as they are gathered from opposite sides of the valley, or in the case of compound glaciers, from different valleys. Compound glaciers have moraines more or less nearly in the center, called medial moraines. When glaciers melt for many years at or near the same place they drop a line of stones there extending across the valley, called a terminal moraine. The term ground moraine is given to the accumulating soil, boulders, etc., under the ice. Agassiz studied these lines of stones with great care as signs of the past existence of glaciers in regions where they are not now found. He followed them down to the end of the glacier, and then down the valley below the glacier, until he had traced them into the plains far away.

"In this way he tracked the Rhone glacier down the valley of the Rhone to Lake Geneva, where it filled the lake entirely, and spread into the plains north and south of the lake. By the time this ancient glacier had reached the lake it was made up of many confluent streams of ice; those on the south side had come from the Mt. Blanc side, and those on the north from the Bernese-Oberland side of the river and valley. This great glacier now spread out fan-like over the plains north and south of Lake Geneva, as the Malaspina glacier of Alaska does now, forming the type of glacier known as piedmont.

"The boulders carried to the north side of the lake were those from the north side of the valley of the Rhone, and those to the south of the lake were from the south side of the Rhone valley. If these stones had been carried by icebergs they would not have been kept thus separate. Moraines, then, constitute one important sign of glaciers. They are not, however, the only sign. Agassiz learned that the glacier polishes and grooves the surface over which it moves. Passing down the valley of the Rhone he found the bottom and sides of the valley everywhere thus polished. The glacier is, in fact, a vast ice-sled, moving over the surface and pushing all loose material before it and polishing that which it passes over; and in case the ice carries fragments of rocks in its under surface it scratches and grooves the surface that it polishes. With these trademarks of glaciers Agassiz thoroughly acquainted himself."

"Are the polished and grooved rocks at Thistlethwaite's Falls what you call glacier tracks?" asked Ernest.

"You would not see better illustrations anywhere on earth," said Miss B., "not even in the Alps themselves," and it was speedily agreed that this

waited in a body on the first

"And the polished rock in the railroad cut near the Earlham campus?" asked Edward.

Miss B. produced a photograph of that rock as she further observed: "This huge mass of rock is also a stranger to the locality where it now is. It was held in the clutches of the moving ice mass until its under side was polished and striated as you see." It was agreed that this rock mass should also be visited. Miss B. further mentioned that glaciated rock could also be seen on the hill near Abington. It was also agreed to make an early visit to the Earlham College Museum, where many specimens of glaciated rock from various parts are to be seen. Miss B. now took THE INLAND EDUCATOR for August, 1896, and located the moraines and striae in all parts of Indiana, and made a brief study of the glacial map of North America.

"After Agassiz's studies of glaciers in the Alps," Miss B. continued, "he went to England and Scotland to study glacial phenomena there, and, one by one, he won to his view all the great geologists of England—among them Buckland and Sir Charles Lyell, who said, 'It explains phenomena that have puzzled me all my life.' He then came to America and within fifteen minutes after the boat had landed at Halifax he had ascended a hill and reached a conclusion for all the country of which the observations of half a century have shown the wisdom; namely, that the glacial moraines of America cannot have angular blocks of stones in them because they did not come from a district in which there are lofty peaks, like the Matterhorn, to drop such blocks on the top of the moving ice, but that all material had been gathered from the surface over which the ice moved; all had therefore been worn.

"He showed by striae and polished surfaces on the sides of the mountains that the glacial ice had been 5,000 feet thick in the Appalachian region, and by moraines and polished and grooved surfaces, that it had extended westward over the Northern United States and British America, as shown by the map opposite page 28, Vol. III, No. I, of THE INLAND EDUCATOR.

"That our genial, fertile valleys had ever experienced such a reign of ice and frost was not easy to believe; but Agassiz piled up the facts; from Lake Superior, from Iowa, from Maine and from all points between, he held up the parallel striae and asked, 'Could icebergs have moved three hundred miles in one straight line, and enough of them abreast to cover an expanse of ocean three thousand miles wide?' A moving continent of ice explains all; nothing else explains anything."

"But, what if there was an ice sheet here as big and thick as you say, and what if our boulders

did come down from Canada on it, Miss B.?" asked Mary.

"If," answered Miss B., "all this is true it is interesting, because it is a part of the story of how the earth was made; but it has another interest. Soil depends on the character of the surface rocks of the country. Sometimes these contain elements of fertility, and sometimes they do not: the drift does not cover Monroe county; there is in this county a north and south strip of limestone; it is quarried near Bloomington; when this rock decays it makes an exceedingly fertile soil; east of this is a strip called the knobstone—silicious—a poor soil-making rock. One can trace the line between the limestone and knobstone as he rides in his carriage: to the west—limestone—magnificent forests; to the east—knobstone—scrub oak and other undergrowth; to the west fine homes, fat horses, new carriages; to the east —

"The drift has left to these great Northern states a soil some two hundred feet thick, and of uniform and inexhaustible fertility. If the drift had not been here most of us would not have been here. Our case is Emerson's and the Rhodora's exactly:

'Why thou wert there, O rival of the rose,
I never thought to ask; I never knew.
But in my simple ignorance suppose
The self-same power that bro't me there bro't you.'

"This 'power' permitted frost to reign for so long a time in America that a sub-soil might gather on which intelligence and virtue could reign; and He left in the Alps and in Greenland the key to help us in understanding *how* the beneficence was wrought. We can study poetry and science because we do not need to study how to extract an existence from an unwilling soil.

"The good of inquiry does not rest alone in the usefulness of the knowledge acquired, but in the growth of the learner.

'He is the essence that inquires,
He is the axis of the star,
He is the sparkle of the sun,
He is the heart of every creature,
He is the meaning of each feature.'

"The mind of the student is the item of supreme interest; not the Pythagorean proposition, or the Latin root, or the meaning of Dante, or the beauty of the snowflake."

At this mention of a snowflake Miss B. noticed that a snow shower was then falling; and she took her class to the window and read Bryant's "Snow Shower." Everyone was subdued and Miss B. turned to Mary, who stood with tears in her eyes, and asked: "Is that about snowflakes?" "No, it is about men and women." "And our story of a stone is about them, too, and

God, who made both them and it. In all the long story from Nebuke to man, there is not an uninteresting chapter, not an irrelevant act; atom, ocean, mountain, not less than monad and saurian, are couriers of man. Meaningless and trivial without him, they become divine with him.

"Nature confessed her method to Emerson:

'And thefts from satellites and rings
And broken stars I drew;
And out of spent and aged things
I formed the world anew.'

"So the present has no key but the past. Form has grown old and perished with its age, while spirit, new born, has taken on newer and diviner form.

"The taunt has been flung at science that it has been busy with worms! and so it has been, and so it will be, but not for the worm's sake; from its study of the worm it has given to sociology its law. History has been rewritten, and theology will soon have been in the

light which the glowworm has shed. Of every force as of every form, man has been the meaning and goal.

"Nature confessed this also:

'I tire of globes and races,
Too long the game is played:
What without man is summer's pomp
Or winter's frozen shade?'"

"But man is here now, Miss B.," said Mary.

"But he is far from perfect," said Miss B. "He is a slave to passion, to ignorance, to superstition, to disease. The influences that have made him better than the tiger must all be known that they may be selected and summoned to make him better than himself."

As they were exchanging good-nights Henry asked, "Can anyone think that it was ever cold enough here for the ice to form?"

"Your question is of the highest interest," said Miss B., "but we will have to leave it for a second indoor lesson in March."

RICHMOND, IND.

AMPLIFICATION AND APPLICATION OF THE BASAL PRINCIPLE OF TEACHING.

PRINCIPAL O. L. LYON.

WE have noticed the similarity between the basal principles of teaching and those of knowing. We have seen that to know an object it must be made one with our thought life. The mind simply finding its object is the mind unifying itself with the object. All branches to be taught must be brought into unity with the mind. A further elaboration of this is probably necessary here, in order that there may not be any misunderstanding in regard to what is basal.

Let us note how the mind gets its objects. By an external stimulus, some sort of nervous oscillation is produced which results in sensation. But as yet the mind has no knowledge of a definite object. The mind must react against sensation in accordance with the fundamental laws of its activity; such as time, space, cause, substance and attribute, identity, etc. That is, the sensation must be rationalized and interpreted. These various relations are dropped into sensations in order that the sensations may have meaning. The color sensations in a great painting afford the mind no meaning. It is the mind that gives *all* the meaning. The World's Fair caused many, many sensations, but a moment's reflection will

show that the meaning of the Fair was given by the individual minds there. The possibility of the sensations was the same to all, but the meaning given was quite different for different individuals.

Now, if we are not to rest in absolute idealism, we must say that the relations in the way of categories which enter into the construction of the objects in our minds have an objective existence. The Great Eastern was constructed according to the laws of thought, but the objective reality of these laws has been tested by many a wave. In fact, the whole objective world has its indisputable tests. God in conceiving the world thinks it under the forms of time, space, cause, identity substance, attribute, etc. This world of relations in conception is realized by Him in will. This gives the world an objective existence, but if it first exists in conception and afterwards is realized, it is evident that the essence of things is the thought manifest in them. This *thought* is the only thing that we can get. Thus it is seen that to think a thing it must be determined not only by the nature of the objective relations constituting the thing, but also by the subjective relations within our minds, or in other words, by

our own thought laws. But it must be observed that the mere existence of external relations and our knowledge of the same are two entirely different things. If we accept it as a fact that the laws of being are parallel with the laws of thought, we are then able to get a knowledge of things. But it seems that on no other hypothesis can we rest. God puts into our minds the same conceptions by which He conceives the world of things. This may be considered a pedagogical interpretation of the passage where it says, "Let us make man in our own image, after our likeness." It is clear, though, that if this is so, we can appreciate God's manifestations to us and can systematically construct our own world vision. Sensation gives the occasion for the mind's construction of its objects.

This gives us the basal principle of teaching, which is the unification of our own thought with the thought manifest in any object to be learned. We thus, in a certain sense, find our own life in every object learned. The above also suggests how to work out the universal problem of method; i. e. how to bring the mind and object together. We see that to know an object is to think it, and in order to do this we must construct it in our minds. Then, to teach an object we would have to analyze it into its attributes and relations, and by these means lead the pupils into a knowledge of the object. Of course, analysis and synthesis would largely go hand in hand. It is presumed that the teacher knows the objects to be taught, but in addition to this he must invent means, or think out the steps by which the pupils are to be led into a knowledge of these objects. These steps he knows by observing, carefully, how he himself has attained to a knowledge of the objects. He has carefully constructed all the branches to be taught, and analyzed all these processes of construction. He, also, understands the fundamental forms of the mind's activity, by which these subjects are constructed, and is therefore able to wield each branch as an educational means for the mental development of his pupils.

If we observe children, we find them seeking a knowledge of things by the same means that the teacher employs. They seek to analyze each object into its relations according to the laws of mental activity. The child says, "What is that?" asking after the substance of the thing. "Where is it?" says he, thus desiring to know its place relations. "Why was it put here?" Now he is seeking the purpose of the thing. "When was it made?" Here time engages his attention. "What is the cause of it?" And so we might proceed with the multitude of questions asked by the little seekers after knowledge. Unconsciously they do the same thing that the teacher does con-

sciously. They are seeking to analyze the object into its relations in order to understand it, and then impart it to others.

Those relations which enter into the constitution of the object, and which are chiefly employed by the teacher in assisting the pupil to grasp his objects of knowledge are likeness, unlikeness, time, space, number, motion, being, quantity, quality, identity, cause and effect, and purpose. These relations, if rightly used, will interpret and locate the object in its proper class.

Likeness and unlikeness are the most simple, yet they require distinction and comparison. A basis must be established in all cases. To compare things there must be some element of community, while to contrast them there is needed an element of difference. Because of the little use of this means of developing a subject, students find it difficult to answer such questions as, compare and contrast the heart and lungs, the arteries and veins, chemistry and physics, grammar and rhetoric, logic and rhetoric. In all subjects this can be used to good effect in drawing out good thinking. There are few better devices in history and geography to develop the subject.

The physical categories of time, space, motion, and number are usually pretty well brought out. The temporal relation is sometimes made too prominent; as, dates in history. Yet for the object to be properly conceived it must be located in both time and space. These imaginary elements are very active, especially in early life. But, if we stopped here in our teaching of the object, the pupil would have a very incomplete notion. At best there would be no stability about it, but only the fleeting. Hence, the metaphysical categories of being, identity, cause and effect, purpose and the like are brought in.

The idea of being is psychologically most prominent in the pupil's mind. The mind in the early life goes straight to its object as things existing in space. This idea of being or objective reality of the qualities of our objects gives our notions constancy, and gives the mind satisfaction. The teacher should distinguish between those things which are objectively real and those which are not. Examples of the former are found in the events of history, of the latter in mathematical geography, as the existence of the parallels, meridians, equator and poles. Even in mathematics that which is actual should be distinguished from that which is not so.

The category most useful to the teacher to enable him to bring out the thought in any object is purpose. Purpose is the highest category of the intellectual life. Even causation has to resolve itself into volitional causality in order to be thought.

By thinking the object through to its ultimatum we find that purpose gives it its existence, harmonizes all of its qualities and elements. Purpose determines what these shall be. As we have seen, any object or even the world exists first as idea and afterwards is realized. The World's Fair existed first as idea and then was realized. Since purpose exists first as idea and last as objective reality, it is both the first and final cause of the existence of any object. Were it not for the idea existing as first cause of the object, there would be no real object. Hence, the idea is the means to the realization of its objects. Thus, in viewing objects under this category, we get at their genesis and can see most clearly how the mind can identify itself with its objects in order to know them. They first exist in idea and the mind can know this idea.

This device by which the teacher can come most nearly to thought in the object is too little used by him. There is too much rote recitation and not enough thinking. The teachers should see to it that his pupils be made to think. Every recitation should be measured by the thought results and not by the quantity of the book passed over. Parrot recitations should not be encouraged. If the teacher is master of his subject and knows how to present it, he can make it *live* to his pupils. He can call forth the best activity of their souls. There is no object taught but what has its purpose. This should be brought out. In history, for instance, the immediate purpose of the battle of Yorktown should be made clear as well as its relation to the greater purpose of the Revolutionary War. Furthermore, this purpose can be extended to the great purpose of life. The teacher need only gauge his extension of this relation by the degree of mentality of his pupils.

Since purpose is free self-direction, it determines for us whether the realized object, e. g., a flower, corresponds with the idea flower. If the objective reality is not in accord with the idea producing it we cannot say it is true. Purpose also determines for us the extent of conflict between the ideal and the real. Until there is a harmony between idea as cause and the objective reality there can be no beauty. In the perfect realization of the idea, of course, they are unified; hence, there is then no clashing, and the soul is at rest in the beautiful. Imperfect realizations give more or less of the sense of pain to our feeling of freedom which is in purpose. Finally, purpose determines for us the idea of the good. If the objective reality is suited to accomplish that for which it was intended in idea, it is good. This criterion holds for persons as well as for things. Only the idea of freedom in purpose can

enable us to see that an object is true, beautiful and good. These are the only universal worths. The object in appealing to these activities of our souls comes nearest to us and enables us more fully to see our own life in the larger life of the world.

Probably the next most important means of bringing out the thought in the object is the dynamical relation of cause and effect. This is the fundamental category of science. It binds together all objective existence. Without it all things fall asunder into chaos. Even perception would be solipsism without it. Yet, how little is it sometimes used by teachers? For example, history is often taught to somewhat advanced students without bringing in this relation. The teacher can see nothing in the planting and developing of the thirteen American Colonies which looks forward to freedom and independence. The coming of the colonists over here for freedom, their many strikes for greater liberty have nothing whatever to do with the Revolution. The events are taught in their isolation, and there is, probably, some surprise at every new phase of movement. Instead of this, no subject should be taught unless it is presented in its proper connection. Each event was caused and in turn is a cause. The proper employment of this category will stimulate the pupils to much greater mental effort.

It requires a cause to produce an object, even after it has been planned. The Great Mind back of all things first plans the universe of things, and then as free cause realizes the same. If we penetrate to the ultimatum of causation we do not find necessity ruling, but we find a free cause manipulating all the movements, guiding himself by his own preconceived ideas. This seems to be the only way we can think this without hanging up in contradictions. But these deeper mysteries need not deter the teacher from using this category as one of the chief devices for leading his pupils into the light of things.

STEELVILLE, MO.

People think an author makes his characters and moves them at his will, like so many jumping jacks, controlled by hidden strings. If that were so each character would be a repetition of the author himself, and nobody would read the book. An author's characters are beyond his control; they do as they please, and if anybody thinks the men of Drumtochty are to be easily handled he does not know them.—*Ian Maclaren.*

The prayer of Ajax was for light
Through all that dark and desperate fight,
The blackness of that noonday night.

—LONGFELLOW.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"The teacher's work is susceptible of a logical division into two parts—he stores minds, and he trains them. The modern educator believes the second function to be the higher, because the trained mind can store itself. The effort of the intelligent teacher is to employ such methods in storing the minds of his pupils with knowledge that they shall acquire at the same time the best training."—G. K. GILBERT.

STUDIES IN INDIANA GEOGRAPHY.—VII.

THE MORAINIC LAKES OF INDIANA.

CHARLES R. DRYER.

An intelligent young man once told the writer that he had taught school in Indiana ten years without knowing that there was a lake in the state, yet his pupils probably learned something about Titicaca and Tanganyika. This is a not unusual case of the prevalent love of the remote which afflicts the teaching of geography. That there may be fewer such teachers and pupils in the future, is one of the objects of this paper.

Distribution.—Nearly every map of Indiana shows some of the lakes but none gives an adequate idea of their number. They are most numerous in two belts; one extending from Steuben county to Fulton, the other from St. Joseph to Lake. An examination of the glacial map of Indiana^{*} shows that these lake belts coincide with the great inter-lobate moraines formed between the Michigan, Saginaw and Erie ice lobes. There are very few lakes outside the area of influence of the Saginaw ice. The Indiana lakes are a part of the great morainic lake belt which extends from Cape Cod to Dakota, and in no portion of that belt are the lakes more numerous and characteristic. Steuben county, alone, contains more than one hundred, and the whole number in the state cannot be less than one thousand.

Classification.—Glacial lakes are of two classes: (1) *rock basins* formed wholly or partially by glacial erosion; (2) *drift basins* formed by the irregular deposit of drift. The former are very numerous in Canada, New England, Scotland, Sweden, Finland and regions of ice accumulation generally. The latter are characteristic of regions of ice destruction and drift deposition, as the North Central States, and north Germany and Russia. No glacial rock basin occurs in Indiana, and under most of our lakes the drift is probably not less than one hundred feet deep. They all belong to the class

which Davis[†] has called lakes of *obstruction*, as distinguished from basins formed by construction or destruction. In general, they may be said to be due to the irregular deposit of glacial drift; the hollows or basins being the counterparts and complements of the hills and knobs characteristic of terminal moraines.

Penck^{*} divides morainic lakes into three classes: (1) Round, cauldron-shaped basins, known in this country as *kettle-holes*, or "potash kettles," many of which are dry. (2) Long, narrow channels containing shallows and deeps like the beds of rivers, which they evidently once were. (3) Basins which are branched, lobed or otherwise irregular, often extremely so, and whose bottom topography is undulating like the surface of the land around them. To these might be added basins of complex origin which combine some of the characters of the three classes.

Size.—Morainic lakes are always small, the area of the majority being less than one-fourth of a square mile. The largest in Indiana has an area of a little over five and one-half square miles, while the Mauersee, in East Prussia has an area of thirty-five square miles, divided, however, into six basins, and a maximum depth of 125 feet. The depth varies from a few feet to a little over 100 feet, which, in some small lakes, makes the slope about as steep as the material will lie.

Kettle-hole Lakes.—One of the finest specimens of a lake with a single, symmetrical, kettle-shaped basin is Gage Lake in Mill Grove township, Steuben county. (See map.) It is about one mile by three quarters in diameter, and surrounded by high sand bluffs. The slope of the bottom is quite uniform from every side, and a large area in the center is over fifty feet in depth, with a maximum of seventy feet. Clear or Pretty Lake, in Milford township, LaGrange county, is about the same size as Gage, and its basin, nearly circular in outline, forms a perfect washbowl eighty feet deep in the center, gradually shallowing to about sixty feet toward the shore in all directions, then rising rapidly to a wide, shallow rim all around. Blue River Lake, in Smith township, Whitley county, belongs to the same class but is larger and less deep.

Clear Lake in Clear Lake township, Steuben county, is a double, or perhaps triple, kettle-hole, divided by a ridge which rises to six feet below the surface. (See map.) Its area is 1.18 square miles. The south basin is regular in outline, a mile and a quarter long by half a mile wide. There is a coast shelf of shallow water, from which

[†]Proceedings Boston Society of Natural History, Vol. XXII., p. 315.

^{*}Morphologie der Erdoberfläche, II., 265.

the bottom falls away rapidly, the slope being in several places as much as one foot in two, or at an angle of more than twenty degrees. At one place the depth increases in ten boat-lengths from six to ninety feet. A large portion of the central area is below sixty feet, and the line of greatest depth varies between seventy and one hundred feet. The water is very clear, and reported by divers to be very cold in some places at the bottom. Over these areas ice seldom forms, and they probably indicate the position of copious sub-lacustrine springs. To this class also belongs some members of an interesting group of lakes in Johnson township, LaGrange county. Two of the group, Atwood and Witmer, are situated within a terminal moraine of the Saginaw glacier, and are surrounded by high hills, but are quite shallow. The others are in a level intermorainic interval. Third Lake is an irregular hole of perhaps 300 acres in the midst of an extensive marsh. A depth of ninety-six feet was found within twenty rods of the inlet, and no water beyond was found less than seventy-five feet deep. Oliver and Olin Lakes, about 600 acres in area, lie in the same level interval, but not in a marsh. As far as sounded, they proved to have a quite uniform depth of from sixty to eighty feet. These deep, abrupt and smooth-bottomed basins, not among the hills, but sunk into the level surface of the ground moraine, upset the supposed rule that lakes with low shores are shallow.

Examples of kettle-hole lakes might be cited indefinitely. They are of all sizes, from a mere pool up to one or two square miles. Dry kettle-holes far outnumber the lakes, and are of all dimensions, from a mere dimple, saucer or soap dish to a great cauldron or funnel. The writer has seen in Western New York, near the summit of a morainic gravel hill, a perfect funnel about two acres in area at the top and tapering downwards 100 feet to a sharp point. On account of the porous nature of the soil it never retains, even temporarily, a pool of water. If a kettle-hole sinks into the clayey ground moraine or is lined with an impermeable clay deposit, as a cistern is lined with mortar, it will usually be filled with water up to the level of the lowest point in its rim, and if the rain-fall exceeds evaporation, will have an outlet. If it sinks into sand or gravel below the level of permanent ground water, it is like a well, and will hold water up to that level, but will not overflow. The celebrated and marvelously beautiful Walden Pond in Concord, Massachusetts, rendered famous by Thoreau and Emerson, is a kettle-hole lake in a glacial sand plain, sixty-five acres in area, 100 feet deep, and without visible inlet or outlet.

Origin.—The precise mode of formation of kettle-

holes was for a long time a puzzle until observations of existing glaciers revealed the process. During a period of glacial retreat the ice near the margin is stagnant and covered with debris to a considerable depth. Large masses of ice become detached from the main mass and, buried in drift, are left to melt. As they slowly disappear the drift material caves in over the vacant space and only a hole remains, its depth, dimensions and slope depending upon the thickness and breadth of the ice block and the character and quantity of the moraine material. Kettle-holes, both dry and water-holding, are among the most characteristic and easily recognized features of terminal moraines.

Channel Lakes.—Terminal moraines contain many long, narrow lakes, which occupy valleys generally much too large for them, and have uneven bottoms with alternating deeps and shallows like old river beds. During the recession of a glacier large volumes of water flow away from the ice front and carve deep channels for themselves in the loose moraine material. After the disappearance of the ice these channels are abandoned, or, being supplied only by rainfall, the volume of the stream is greatly diminished. They partially fill up with sediment, and come to be occupied by marshes or shallow lakes, threaded and connected by an insignificant stream. As has been elsewhere noted,* the Saginaw ice lobe withdrew from Indiana while the Erie lobe still occupied the northeastern portion in considerable strength; and the whole northwestern slope of the joint interlobate moraine in Steuben and Noble counties is furrowed with glacial drainage channels. In Steuben county several transverse valleys cut entirely through this moraine and carry water from the interval on the Erie side into the Lake Michigan basin. They are a half mile to a mile in width and 150 feet deep, and each contains a chain of lakes strung upon the thread of a small stream.

The larger lakes of these chains are mostly of complex structure and origin, but many of them are typical channel lakes. The long, shallow arm or neck of Crooked Lake in Pleasant township (see map) is a perfect example of this kind. Long and Golden lakes of the Pigeon river chain in Steuben township are each more than a mile long and scarcely one fourth of a mile wide, with a middle depth varying from twenty-five to forty feet. From Hogback Lake, the next below in this chain, a similar valley trends northward five miles to Gage Lake of the Concord Creek chain. This, too, was once an important drainage line, but a number of sand and gravel ridges a few rods wide and thirty feet high, resembling a railroad embank-

* INLAND EDUCATOR, Vol. IV, pp. 61, 65.

ment or fill, have been in some way thrown across the valley, and ponded between them are half a dozen shallow pools, without outlet. A similar phenomenon is presented by the valley of Long Lakes in York township, Noble county. Long lake in Milford township, LaGrange county, two miles long and nearly half a mile wide, probably belongs to this class, but is of unusual depth—forty-five to eighty feet. Shriner's and Cedar lakes in Thorn Creek township, Whitley county, occupy two narrow, parallel valleys, separated by a ridge scarcely a quarter of a mile wide. Shriner's is straight and symmetrical, one mile by one fourth, its middle depth increasing from forty feet at the foot to over seventy near the head. Cedar is much more irregular in outline and bottom, and is divided by shallows into two basins, of which the upper is nearly eighty feet deep. Round Lake, 160 acres in area, and sixty feet deep, connected with Cedar by a narrow channel and at the same water level, is probably a kettle-hole.

Irregular Lakes—Lakes of lobed, irregular and complex form and outline, are numerous. They may have been formed simply by the irregular, tumultuous dumping or heaping up of drift, but many are probably of complex origin, including within one connected area kettle-holes, old river channels and basins due neither to the melting of detached ice blocks, nor to stream erosion. No better example exists in the world than James Lake, in Pleasant and Jamestown townships, Steuben county. (See map.) It consists of five distinct basins, with a total length of five miles and an area of 2.21 square miles. The southern and largest basin is one mile by a mile and a quarter, with very irregular shores and bottom. Three small islands stud its surface, and at another point a mound in the bottom rises to within eight feet of the surface. The depths between vary from thirty to sixty-five feet. Upon the east side the shores are abrupt and the hills rise steeply to a height of one hundred to two hundred feet. Bold promontories, sequestered coves and precipitous bluffs give it a highly picturesque character. The second basin is more regular, with a length of one mile and a maximum width of half a mile. The east shore continues to be high and steep, and only a few rods from it sixty feet of water can be found. The maximum depth is eighty feet. Northward it narrows to a strait with only two feet of water, opening into the third basin, which in shape, size and depth, closely resembles the second basin. Eagle Island, a high peak rising abruptly from the water near the north end, is now joined to the mainland by a marsh. A few rods off its west shore the deepest sounding in the lake was made, eighty-seven feet. A narrow passage

leads to the fourth basin, which is continuous to the east with a valley, which cuts completely through the moraine and contains numerous small lakes, surrounded by extensive marshes. Its depth varies from thirty to fifty-five feet. This basin is bounded on the north by Deer island, similar to Eagle, and a bar thickly overgrown with rushes. The lake seems to end here, but if one pushes through the rushes, he emerges into the fifth basin, larger than the fourth and about the same depth. The valley continues northward several miles into Michigan, and contains Lake George, as large as the southern basin of James, besides many small pools. These are drained by Crooked Creek, which again emerges from James Lake on the west side of the second basin, and in less than half a mile empties into Jimerson Lake. The whole connected series of basins seems to occupy three valleys, which were important lines of glacial drainage; one from the southeast through the first and second basins of James and Jimerson, one from the north through George and the fifth, fourth and third basins of James, and one from the east into the fourth basin. The space between the east and southeast valleys, occupied on the map by the label, contains the highest, most precipitous and irregular group of morainic knobs in Indiana—rising at one point to 1,200 feet above tide. The level of James Lake is about 1,000 feet. The whole region is as nearly Alpine in character as moraine topography can be, and though Alpine only in miniature, it presents a surprising variety of scenery, which rivals many more famous localities.

Among the morainic lakes of Indiana, James Lake is surpassed in size only by Turkey Lake in Kosciusko county, which has recently been thoroughly surveyed by Messrs. Juday & Ridgley, of the Indiana University Biological Station. A report of their survey appears in the proceedings of the Indiana Academy of Science for 1895, to which we are indebted for the map herewith reproduced, and for the following interesting data. The map tells its own story better than words can. Turkey Lake is made up of two parts connected by a channel three-quarters of a mile long and from one to five feet deep. The part north of the channel, known as Syracuse Lake, includes an area of three-quarters of a square mile; has an average depth of thirteen and a half feet and a maximum of thirty feet. The greatest length of the main lake is about four miles and its greatest width one and a half miles. The entire shore line is between twenty and twenty-one miles in length, and the area a little more than five and a half square miles. The average depth is computed to be between seventeen and twenty-

two feet; the greatest depth is sixty-nine feet. An examination of the contour lines of the map shows that very much of it, an area computed to be three and a quarter square miles, is less than ten feet deep. If the level of the lake were lowered thirty feet the area would be reduced to one and fifteen-hundredths square miles, and would consist of four bodies of water connected by channels from 100 to 200 feet wide and less than ten feet deep. These would be: (1) A small area in Crow's Bay with a maximum depth of nineteen feet; (2) about one-half of Jarrett's Bay with a maximum depth of thirty-eight feet; (3) the main body of the lake, its width decreased almost one-half, and its maximum depth being thirty-six feet; (4) a small area toward the west end with a maximum depth of thirty-three feet. Lower the level of the lake forty feet and these four bodies of water would be separate lakes. "The similarity of the lake bottom to the surrounding country," remarks Professor Eigenmann, "which seems to have been little changed by erosion, makes it quite certain that the lake basin is due to the irregular dumping in a terminal moraine, parts of it containing deeper kettle-holes." Many interesting data in regard to shores, beaches, outflow, evaporation, temperature, ice, etc., may be found in the report of Mr. D. C. Ridgley before cited.

Life History.—Of all the varied features now presented upon the face of the earth there are probably none whose essential characteristics are more obvious, whose life histories are more easy to read than those of the morainic lakes. They are all geologically young, those of Indiana being confined to the very latest moraines of the glacial period. They are mere babes born yesterday, and destined to die to-morrow. During the period of glacial melting it seems certain that all existing valleys, except drainage lines of rather steep slope, would tend to be filled up. At any rate, many such half-filled valleys now exist, and it is probable that all the kettle-holes and basins have suffered a considerable diminution in depth. As soon as the surface became subject only to the wash of rainfall and was covered with forest, general erosion and removal of material from the slopes into the hollows was greatly diminished, and at present the results of these processes are practically nothing. The streams which now empty into the lakes are few and small, and the quantity of sediment thus brought in is very trifling. A recognizable delta is almost unknown. Many of the lakes are great springs fed by inflows at the bottom, and the evaporation so nearly balances the supply that the outlets are small and feeble. Natural down-cutting of outlets is nowhere perceptible. The deposit of lime and iron salts

from the overcharged ground water is probably doing more to fill up the lakes than surface erosion. This phenomenon is more noticeable in some lakes than in others. Aquatic plants are, as a rule, incrusting with lime, and mussel shells and pebbles upon the bottom form nuclei for similar deposits which soon render their original form scarcely recognizable. The water of some shallow lakes seems of milky whiteness on account of the deposit of marl on the bottom, and such lakes look at a distance like silver coins or platters laid down among the hills.

Another very efficient agent tending toward the extinction of these lakes is man himself. In the case of small and shallow lakes, artificial drainage has often resulted in their complete destruction, while the areas of large shallow ones have been reduced one-half or more.

A third agency more effective than all others for the obliteration of morainic lakes is the growth of aquatic vegetation. The character and extent of this growth depends somewhat upon the depth of the lake and the slope of the shores, but chiefly upon the nature of the bottom. In this respect lakes may be divided into three classes—lime lakes, sand lakes and peat lakes. In lime lakes the bottom is composed of marl and all vegetation is very scanty and stunted. This is true to nearly the same degree of lakes with sandy bottoms. But a large majority of the lake-beds are covered with a black, tenacious mud which furnishes the soil for a luxuriant growth of aquatic plants wherever the requisite shallowness and stillness of water permit. Small lakes are often surrounded by a border of dense vegetation which extends out as far as the line of about twelve feet in depth. In the large lakes this occurs only upon the west side, even when the conditions of soil and depth appear equally favorable upon the east side. This is due to the prevailing westerly winds which create too much wave disturbance along east shores for the accumulation of peat. The lakes are literally being filled with solidified air, the great bulk of the solid material which composes the plants being absorbed from the gaseous ocean above and consigned to the watery depths below. The maps of Steuben county show in Fremont township Cedar Lake as being a mile in diameter. In fact there is no lake there. Some of the water has been drawn off by artificial drainage, and the remainder is now covered by a floating, quaking bog, with a few open lagoons. This lake has been buried alive by a growth of peat, and that there are many such in Indiana, the railroad companies which have tried to lay a track across them have found to their cost. Extinct lakes are more numerous than living ones, and their beds are marked

by bogs or meadows underlain by fifteen or twenty feet of muck. The process is slow if measured by the years of a man's life : perhaps the peat bed extends into the lake only a few feet in a century. The present dominant race of men may pass away and leave these lakes still lying like bright jewels among the hills ; but everyone is doomed to final extinction.

" The hills are shadows and they flow
From form to form, and nothing stands :
They melt like mist, the solid lands.
Like clouds they shape themselves and go "

But of all features of the landscape, lakes are the most ephemeral. As long as they remain they will continue to contribute to the service and delight of man. They fed the savage with fish, but they feed the more highly developed man with beauty, and afford means for that relaxation and healthful pleasure which the conditions of modern life demand. The time may come when the lakes of northern Indiana will be the most valuable property of the region, and means will be sought for preserving, instead of destroying them. Between the Great Lakes and the Ohio there is no more beautiful tract of country. At present comparatively few of the citizens of Indiana are aware of its attractions ; but it cannot long remain in obscurity. Among its hills and lakes thousands of the coming generation will find their summer homes.*

SCIENCE IN THE TEACHING OF ENGLISH. XX.

COMPOSITION.

THE THOUGHT SIDE OF COMPOSITION WORK.

Too much care can not be taken in selecting the material which the child is to construct into a composition. In the elementary stages of the work, much time must be given to the preparation of the material before the child is asked to write. Under the guidance of the teacher, the child must be led to look at the idea about which he is to write, from many points of view ; he should analyze it ; organize the thought around a purpose ; and this will lead him to see that he can deal with this material with different purposes in mind, or that he may have a choice of purposes in writing about any idea.

PURPOSE.

The idea of purpose in discourse is a very important one, and it is one which, in my judgment, is very much misunderstood and abused. An author doesn't start out with a bundle of purposes under his arm and look for embodiments for them. We sometimes speak of purpose as if we thought the author went about burdened with purposes.

A more detailed description of these lakes may be found in the 17th and 18th Reports of the Indiana State Geologist.

and, now and then, as he came in contact with something which would serve as an embodiment for one of his purposes, he stopped and went through some such mental soliloquy as the following : " Hold on here a moment ! I see here the first blue-bird of the spring. I think I have a purpose here under my arm which will just fit this embodiment." He then finds the purpose which just suits the embodiment, and behold ! a wonderful poem entitled, " The First Blue-bird of the Spring ! "

The author does not write literature in the way indicated above. That would make it formal and mechanical—the work of an artisan and not that of an artist. The great writer of literature is an artist, not a mechanic. He is a genius, a seer, an intuitive thinker. He does not think of purposes. He sings because he can not help it ; it is the natural and spontaneous outpouring of his life ; so far as he is concerned there is no more purpose in it than there is in the song of the mocking-bird, or in the murmur of the brook, or in the sighing of the wind. Some of the most beautiful poetry we have in the English language was written merely for money, so that if we should say that the author had a purpose, we should have to say that it was to obtain money. A good example of this would be the poetry of the English poet, Green, who wrote the most beautiful lyrics, perhaps, that the English tongue has produced, only to obtain money with which to feast and carouse with his associates, and who was finally killed, quite early in life, in a drunken brawl, in a drinking-house of the lowest kind.

The true artist, then, does not strive for effects ; he writes as the wind blows, as the bird sings : he is impelled to it ; it is the natural expression of himself ; the rules of his art are not known to himself ; these rules are so much a part of him that he does not know that they exist and that he is complying with them. What has been said so far does not apply to the writer of didactic and ethical discourse, to writers of text-books, for example. I have been speaking only of artists.

But while all this is true, every selection of literature that is worthy the name does embody a purpose. This is also true of didactic and ethical literature. Whether the artist is conscious of it or not, he does embody in every selection a purpose—must do so or it would not be a selection. It would be just as impossible for the poet to write literature without embodying a purpose in it, as it would for the cabinet maker to make a table without embodying a purpose in it. If the cabinet maker did not embody a purpose in his table, he would be likely to get parts of the chair into it. If one should take parts of Wordsworth's " Excursion," Shakespeare's " Merchant of Venice," and



Gray's "Elegy in a Country Church-Yard," and mix them together promiscuously he would not have a poem. Why? The parts are all artistic but they do not belong together; the production has no meaning in it; it is not unified, because it does not embody a literary purpose. Perhaps the poet is not conscious of the purpose which he embodies in his production; certainly he does not go to work with the intention of putting a purpose into his production, but the purpose is there—must be there or the selection would not hang together.

Here is a school-yard. Leading down from the front entrance is a walk. The ground is covered with snow, which has lately fallen. All around the yard, in different parts, the footprints of a man are to be seen, but there are none on the walk. But do you think a man was walking about the yard? Yes, for here are his footprints. Do you not think he was unconscious? Perhaps he was. It may be he was drunk. Why did he not walk in the path? Perhaps no one can tell. What do we know about the case? We simply know that the man has been here,—and here,—and here,—for we can see his footprints. So if you ask, had the author a purpose? Was he conscious of it? I answer that we know as much about it as we do about the man in the yard—nothing more. We know the purpose is there—that is all. The author must have put it there, but whether he did it consciously or unconsciously; whether he did it accidentally or on purpose; whether he had to force himself to it or was impelled to it by his genius—these are questions which we, perhaps, can not answer. Perhaps the poet, himself, could not tell. The important fact, after all, is that the purpose is there; it matters little to us how it got there. For all these reasons I prefer to speak of the purpose "embodied in the selection," and not "the author's purpose."

But the discussion up to this point has really very little to do with the teaching of composition, except for the fact that we use standard literature as a model in the work, and to furnish the materials for compositions, which requires that we interpret it. The children in the public schools are not artists, as a rule, nor are very many of them apt ever to become artists or geniuses. It is not the function of the public schools to make them artists, and if they ever become such it will be when what they learn in their composition work has been made so much a part of themselves by practice that it is a second nature to them. We must recognize the fact, I think, that whether or not we can analyze the process by which the poet writes poetry, we must see the steps by which the child is to construct a composition; whether the poet is conscious or unconscious of the purpose

which he embodies in his poem, the child must have a conscious purpose and must organize his thought around it. To this extent, at least, the composition work must be formal.

Thus, we may say that the second step in writing a composition is to fix upon a definite and worthy purpose to be embodied in it. Upon the nature of this purpose, and the fidelity with which the writer adheres to it, will depend in large measure the value of the discourse produced. Any piece of discourse will produce a threefold effect upon the mind: it will give some information—an intellectual effect; it will arouse the feeling appropriate to this information—an emotional effect; there will be an action of will consequent upon this information and feeling—a volitional effect. This threefold effect is unavoidable, because of the fact that the mind is a unity and not so many separate faculties. But while this is true, any one of these effects may be the predominant one. Information may be conveyed to the mind by means of the composition for the sake of the information, or the information may be given for the sake of the emotion which it will awaken, or it may be given to the end that certain action of will may be brought about. So we may say that one can write a composition for the purpose of giving information concerning the idea about which he is writing; or he can write a composition which will awaken emotion appropriate to the contemplation of the idea which he is presenting; or he can present his thought about the idea he is treating in such a way as to cause people to act.

In helping the child to prepare the material for his composition, the teacher can easily lead him to see these three purposes which may be embodied in discourse. Which one of these purposes he should choose would depend largely on the nature of the idea about which he is going to write. But it is not sufficient that the child decide to produce an intellectual effect or a volitional effect. This is not definite enough. If the composition is to convey information, just what information is to be given by it, for it could scarcely present all phases of the idea treated? If the purpose be to awaken emotion, just what emotion is to be aroused on the contemplation of this idea? Is it joy, or regret, or reverence, or sympathy? The purpose must be definite.

This discussion has already indicated, I trust, the importance of this idea of purpose in composition, but if I could say anything more to emphasize it, I should be glad to do it. It is the most fundamental idea in discourse for two reasons: in the first place, it is the means of organizing the thought which discourse presents; in the second place, it furnishes

We

have often asked children to write an essay of three pages on "Justice," and then wondered that they wrote such poor compositions. The reason for the poor essays is evident. The children had no motive in writing; their purpose was to get three pages full. Of course the essays would be poor, with no organization or continuity of thought.

Perhaps the word "purpose," as I have used it in this article, is not a good one to express my meaning. It does not entirely suit me, and if any one will give me a better, I shall be glad to use it. But I trust that the meaning I wish to put into the word is clear to the reader. It is the organizing or unifying idea in discourse. Perhaps in the terms of philosophy, we might call it the first cause.

The value of purpose in discourse will be indicated further in discussing the third point, or step, in the process of writing a composition; namely,

THE MEANS TO BE EMPLOYED IN ACCOMPLISHING THE PURPOSE.

These steps which are herein indicated are the logical steps in writing a composition, not the chronological steps. The whole process really moves along as one. When the writer is thinking over the idea about which he is going to write, the purpose which he will embody in his production dawns upon him at the same time. When he considers the means of accomplishing his purpose, he will perhaps change his purpose to one which the means at his command will be better adapted to accomplish. But logically, when one has decided upon the subject about which he is going to write, and has determined upon the purpose which he will embody in his composition, he attempts to marshal the material with which he is to make this purpose clear.

Children begin in the composition work with the discourse forms of description and narration. For some reasons it is easier to begin with description, and for other reasons, equally good perhaps, others would begin with narration; but whether we take the one or the other, the child will be dealing with a particular or individual idea. The question now in this third step is, what can one say about a particular idea, such as, "The Charter Oak," "The Battle of New Orleans," "Pike's Peak," "The Washington Monument," etc., in order to give the reader a clear understanding of it, or awaken some emotion appropriate to the consideration of some phase of it, or to produce some act of will? In writing description, the child will be trying to set forth the particular idea as it exists in space, at a given time, having co-existing attributes and parts. If the child be writing description on the particular idea, "The Washington Monument," he should present the idea as it exists in space, at some one time, and

having co-existing attributes and parts. Now what can he say about it in order to do this? First, he can give the attributes of the monument; e. g., height, form, color, cost, etc. Second, he can give the parts of it; e. g., base shaft, stairway, etc. Third, he can tell how it is like other monuments or objects. Fourth, he can tell how it differs from other monuments or objects. When he has done all this, he has done all that can be done toward setting forth the idea, "The Washington Monument."

But as soon as the child attempts to collect the material with which he is to make clear his purpose in writing on the idea "The Washington Monument," he sees that, no matter what purpose he may have chosen to embody in his composition, he would not present all the material—attributes, parts, etc.—concerning the idea, for two reasons: first, it would be impossible to do so in one composition; second, this material would not all contribute to any one purpose which he might choose. In this way the child will see that he must make a selection of attributes and parts, and that since he cannot compare this monument with all other monuments, he must choose some one or two with which he may compare it. When he begins to ask what material he shall choose, he will see that he should take attributes and parts that are of the nature best adapted to accomplish his purpose, and that he should choose that monument with which he shall compare the idea which he is treating, which will best help him to make clear his idea. This is the principle of selection in discourse. The child need not be asked to state this principle, he need not even mention the principle by name, but he will easily see the force of it and comply with it in his work, and this is true of all the principles which he uses in his composition work.

But, in writing about any particular idea, one would, in all probability, not present all the attributes and parts that are of such nature as to accomplish the purpose, because so much material would, in most cases, not be required. Only so many of these attributes and parts would be required as are necessary to accomplish the purpose. This gives us the principle of completeness in discourse. This principle requires of the writer of discourse that he present as many attributes, etc., as are necessary to accomplish his purpose and no more.

One more question will arise in the mind of the writer of discourse. He has now selected the kind of attributes necessary to accomplish his purpose, he has decided how many are necessary to accomplish his purpose, he now has to find out in what order he can present his material so as best

to accomplish his purpose. When he has done this, he has complied with the principle of method in discourse, which requires that the author present his material in the best possible order to accomplish the purpose.

A discussion of these points, such as has just been given, makes the work seem mechanical, but we must remember that this is more a necessity of the statement than of the work. We do not mean, of course, that the child must figure out just the exact number of attributes and parts which he would present in any case; the language is relative here throughout the statement, and the statement is made specific for the sake of clearness. It is in no case, a matter of so many attributes and parts, except in a relative sense, nor is it a question of such a kind of attributes, or of such an arrangement of them in a mechanical sense; but the whole question is a question of satisfying the mind with regard to the embodiment of this purpose in discourse. This will be made more clear when, in a later article, I indicate how all these points may be worked out from literature.

J. B. WISELY.

METHOD OF TEACHING PHYSICAL CULTURE.

"If the school places gymnastics in its course of study it but obeys the dictates of nature, the first law of which is the uniform development of the whole human being."

—Moritz Schettler.

After having arranged the pupils for physical exercises, they must be drilled in marching and calisthenics, for these are mainly instrumental in arousing in the pupil his sleeping physical abilities, and after a thorough drill in these exercises, the instruction in more advanced work for the furtherance of the pupil's physical education may begin.

The pedagogical requirement that one shall advance from the known to the unknown can consequently be fully met in physical training. The progress in gymnastic instruction depends entirely upon the stage of physical training which the pupils have reached. With beginners one will move forward quite slowly, the successive exercises will be very simple, and their resemblance to one another will be close.

In instructing we only select certain gymnastic exercises, beginning with this or that one, and practice them as they are known to the pupil. Gradually the instruction adds to it another coordinate activity, and adds new features to, or aims to, parts of the whole exercise and practices these separately.

All exercises should gradually grow more difficult, and the older and further advanced the

pupils are, the more exact, prompt and graceful the performance of every exercise is expected from them.

Many pupils easily follow the strong influence which the object lesson exercises over them; others, however, need besides this a careful explanation of the exercise itself. The desired exercise must be shown before it is executed by the pupils, for this is the only way in which they will obtain a clear picture of it in the quickest and surest manner.

Should a single view fail to make the exercise sufficiently plain, it must be supplemented by a second. All monotony in the work of the pupil must be avoided, and this can be done when the exercises vary.

In the school-hours of one day, or even of one week, there is no need that all the pupil's powers be equally exercised, and yet, in the course of a year, symmetrical progress in the development of the mind can be accomplished; just as little necessary is it, and, indeed quite impossible, to exercise in one lesson all the powers and capabilities of movement that the body possesses. It is sufficient if this has been done after a long series of lessons, and if at the end of a more extended period of time, one year for example, all the physical faculties have received equal attention and made equal improvement.

The instruction must be quick and interesting, and the exercises be performed with life, effort and precision.

Do not neglect the daily practice and depend upon the occasional exercises. Permit no work in faulty position.

If necessary, one of the best pupils may be called forward to perform the exercises before the class, after the teacher's command.

As the attitude of the mind is influenced by the position of the body, let the pupils *sit, stand* and *walk* erect.

Bad air in the school-room hastens fatigue. How often pupils are called stupid and punished, simply because they are compelled to breathe impure air!

Always conduct "physical exercises" in pure air.

Short, vigorous exercises should be given pupils whenever long tasks or other influences have dulled their powers.

All motions, except head and trunk movements, should be executed precisely.

Dr. Fred Strass writes:

"Physical culture must be combined with the other branches of education as a whole, if our youth is to receive a uniform mental, physical and moral education, the foundation of the state's welfare."

LOUIS LEPPER.

TERRE HAUTE, IND.

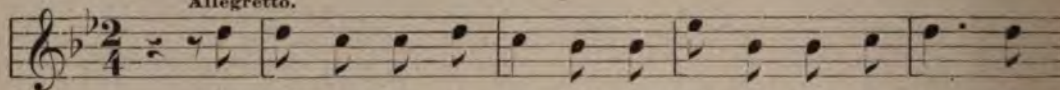
PRIMARY WORK.

ASKED AND ANSWERED.



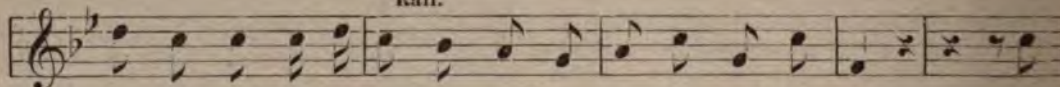
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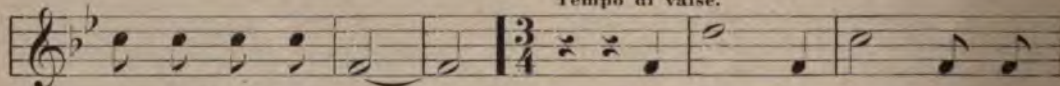
Pray tell me, lit - tle rose - bud, Now pri - thee tell me true, To

Rall.



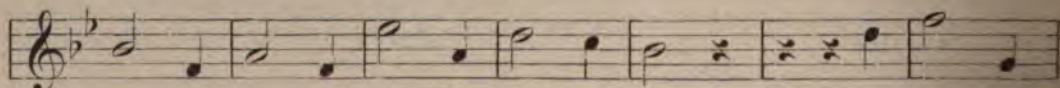
be as sweet as a sweet red rose, What must a bod - y do? What

Tempo di valse.



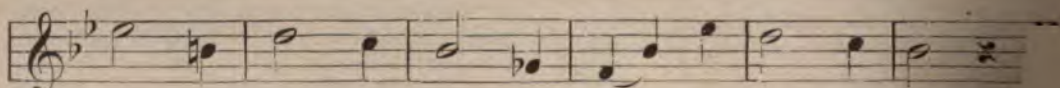
must a bod - y do?.....

To be as sweet as a



sweet red rose, A lit - tle girl like you

Just grows, and



grows, and grows, and grows—And that's what she must do.

ILLUSTRATIVE DRAWING IN THE PUBLIC SCHOOLS.

"There is a clumsy managing or else a beautiful art in every human hand."

So said one of our most cultured men, and surely we all agree. Isn't it evident on every side? See it in the placing of a book, in the closing of a door, in the handling of a pen or pencil, the tying of a cord, or the touch upon a weary head.

In countless ways the "beautiful art" or "clumsy managing" may be evident, and they exist in more than a muscular sense. The soothing touch is more soothing if it is inspired by a sympathetic mind. The book is more tenderly handled if it is loved. The pen and pencil have in them a diviner art if the soul keeps pace with their motion. Muscular control comes from within, and motion is a means of expression, and if the "within" is alive with free, good, true thoughts, it must have its influence on the means through which they are expressed. So it is from within that we work out, and in illustrative drawing the right way is almost the only way. However, the degree of inward development may vary with every instructor, some being able to inspire the pupils much more than others. We can't have an illustration of any value unless the child's mind is first fed with suggestions. "Do men gather grapes of thorns, or figs of thistles?"

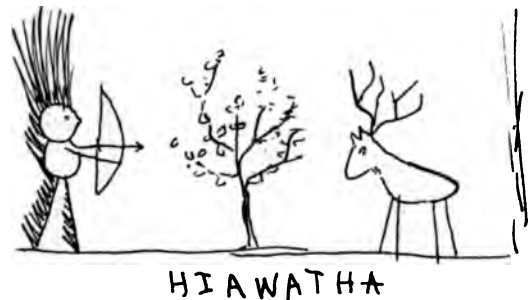
Self-consciousness is said to be the cause of much awkwardness of body, and it also has its influence on other means of expression than the muscular. The unconscious, simple child will express himself much more freely and gracefully in drawing than will the older, untrained pupil. Young minds are not hampered. The roadway of the little child's soul to his paper is broad, and straight, and unimpeded. It is not lined with sign-boards at branching ways announcing, perhaps, "This way means ridicule," "This road ends in a high wall," "This path is too difficult," or "Only great effort will win in this direction." The little child sees few difficulties and fears nothing, but bravely, puts upon his paper his mind's picture. The older pupil's self-consciousness may arise from his ability to criticise, and his inability to express correctly the various elements of his composition. He knows he cannot make the horses, streets, hills, mountains, and men and women look as they ought to, and he fears to try. His inspiration from within has great odds to overcome. If we could only keep the child's power up to the requirements for his composition, our work would be very satisfactory. The unsatisfactory work, however, — is, as a creator of his inability

his eyes are much wider open to that object the next time he sees it. He realizes that he hasn't observed it carefully in the past, and strives to get such power over its appearance that it will never again be a stumbling block to him.

Nothing, the elements of which are comparatively familiar, is too broad or grand for the little first or second or even third-year-grade child to attempt. His conscious power is truly inspiring, and perhaps his little soul reaches the heights more easily because it has not so long been dwelling away from them.

"Heaven lies about us in our infancy."

So, from within must come the "beautiful art" to the hand. Give the child his inspiration, then "turn him loose." His little pictures are not grotesque or ridiculous. They cannot be so to a student of them. We always find in them, as in people, and environment, that for which we are looking.



The illustration above is of "Hiawatha's Hunting," from the work of a pupil in his second year of school. What can we see in this simple attempt? A great picture? By no means that. But can we not feel its strength, vigor, dignity and decision? One need not be told that the child enjoyed making that illustration. No false lines, no "fixing up." It is simple, direct, and to the point. He felt the strong, active life of the Indian boy, and we see it in the erect body, the head thrown back, the lungs expanded, the feet firmly set and the bow drawn. He is the important figure. One does not have to search in a mass of details to find the hero. The deer might be expressed as more alert, but an animal of that order is not so closely allied to the average child's actual experience as is a human being, and we can't expect him to interpret it as well.

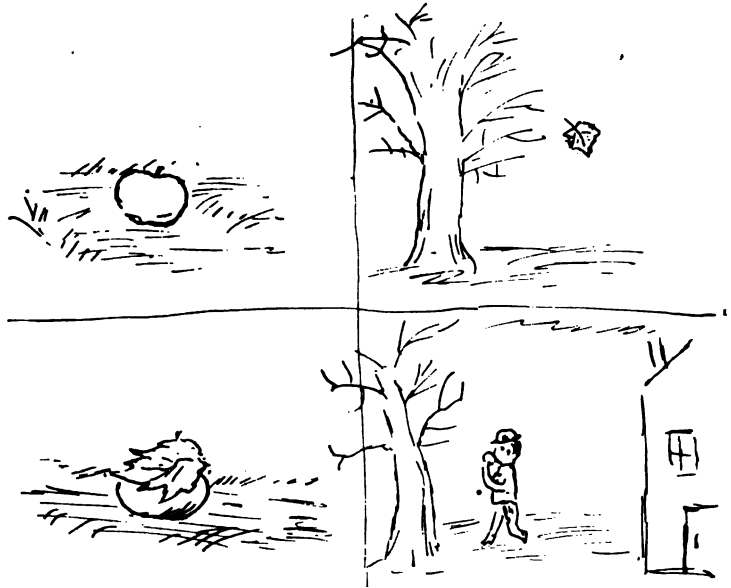
The tree shows evidences, in its vigor, suggestiveness, general form and angles, of well-directed nature-study. The relative size of the elements of the picture is expressed, apparently, as it existed in the child's mind. The tree is a mere accessory. Hiawatha's feathers are much more important to

the child mind, and do not seem out of place to him, towering above the tree tops.

The pupils in the school where this illustration was made know Hiawatha as if they themselves had played with him. In many of our schools the Seven Little Sisters and their surroundings are so familiar to the pupils that they can tell about them in clear pictures, as well as in words.

It is good to have the child-mind develop, even under rather harsh discipline by more or less compulsory means, but to have the desired development come in a way which gives pleasure only, it would seem that we have found a true means of education. Is illustrative drawing a "true means?"

It is work that develops the imagination more than any other faculty, and think what a part the imagination plays in one's life. What would be gained without it from descriptive studies and reading? Dependent upon it are we also in making, in composition of any kind, in forming and holding ideals. How it broadens the mind and soul by the ability it gives to put one's self in an-



vigorous imagination! Do we not remember poor little Sara Crewe?

In illustrative drawing we get not only the imagination, but the expression of it, which expression necessitates clear, concise, direct ideas, and thus the expression is gained "the beautiful art" in the hand. A child's illustration is a mirror, showing just what is in his mind.



other's place? It often teaches us what could otherwise only come through hard experience. It surely is a faculty that needs generous attention. It calls upon the store of images in the mind, and demands more creating, what we have called "needs." How many get inspiration, true enjoyment, and help over hard places by means of a

It is always a question as to how much criticism should be given. Surely nothing discouraging, but great violations of truth, like representing both inside and outside of a house at the same time, or the roots of a tree in the ground, should be corrected,—cases in which facts are confused with appearance.

The second illustration given here also from a second-year-grade pupil, shows a story told in four pictures. We illustrate stories, poems, stanzas, lines, personal experiences, "Mother Goose Melodies" and every-day lessons. We use the blackboard a great deal, because of the size and freedom gained.

The third picture illustrates these lines:—

"Bent low by autumn's wind and rain, through husks that, dry and sere,
Unfolded from their ripened charge, shone out the yellow ear;
Beneath, the turnip lay concealed, in many a verdant fold,
And glistened in the slanting light, the pumpkin's sphere of gold."

This, the work of a child nine years old, shows, with the second illustration, the effect of nature-study, in a marked degree. In the last, the child drew from the left toward the right, and he grew more free and suggestive in his work as it progressed.

Enjoyment of life is now no longer considered sinful. Life, at its best, is not all "beer and skittles." Let us give the children pleasure while they are under our care, and in such a way that we develop resources within themselves, and a power to put the most possible into life, after they leave us, at the same time working toward "a beautiful art in every hand."

L. DORRIT HALE,
Supervisor of Drawing.

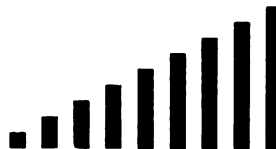
EVANSVILLE, IND.

METHODS IN NUMBER.

Many books are constantly written upon this subject, but to the every-day teacher few of them are accessible, so that more and more is the educational paper depended upon to bring the help needed. It is the object of this article to show in a simple, practical way, some of the latest thought upon the subject of arithmetic, and to indicate some of the methods that may be used in teaching it.

The method of teaching arithmetic depends upon the understanding of what number really is. Very much of arithmetic is taught as if a knowledge of number depends upon an ability to count things; as if number and counting are synonymous. Number has its origin in measuring, and is the expression of a ratio obtained by comparison. A given quantity is compared with a unit of like nature, and the expression of the relation or ratio existing between them is number. This ratio exists, not in the objects, but in the mind; hence, number is wholly abstract. To illustrate: I have a one-inch cube and a two-inch cube. By a mental act I discover a relation between them;

a ratio which I express as a ratio of 1 to 4. Neither the 1 nor the 4 are in the objects of themselves, but by my comparison I may call the small cube *the one*, and the larger cube *the four*, and I have approximately a true idea of number. The Germans teach number in this way, the entire first year using a box of blocks arranged in order of size, thus:



The first block, a cube, is known to the child as *the one*; the second, a square prism twice the size of the cube, as *the two*; the third, three times the cube, as *the three*, and so on, *the four, the five, the six*, etc. The child handles and plays with these; he shuts his eyes, or puts his hands behind him, while one of the blocks is given him and he guesses which it is by the feeling, and then verifies his guess, gaining unconsciously, the true idea of number as an abstract ratio between quantities.

The measured unit and the measuring unit must be alike in nature. We count, one tree, one house, one horse, one man, and say *four*, but no *four* exists in a true number sense, for there is no unit of measure. Take the expression 4 feet and we have expressed the number *four* because it shows that a given quantity has been compared with a standard unit and contains it four times.

This view of number has been lost sight of in our schools until recently, and a consideration of it is beginning to make changes in our methods. The teacher who would keep up with the times needs to study the subject carefully, and to adapt her methods as she progresses in understanding the new ideas.

As the mind must deal with the concrete before it can make abstractions, ideas of number must necessarily be obtained at first, and for some time by means of objects. These objects should be suitable to the end in view. First, they should be of like character and admit of a definite unit of measure. Second, they should be of suitable material, as wood, which is light, clean, durable, and easily obtained. Third, they should be of such a character as not to attract attention to themselves; *i. e.*, simple in form and neutral in color. By presenting objects of complex form and variety of color, the attention is drawn from the idea of number to a consideration of these other properties. Some examples of suitable material are square tablets, cubes, spheres, square prisms, lines and surfaces drawn on the blackboard, etc.

In the beginning work in arithmetic we have

been building up the ideas of numbers by adding successively one unit to the largest number already known. In the new work, each number is taught as a whole, a unit of itself. The first work will be a comparison of magnitudes, using lines and surfaces and solids of the same shape and different sizes, as illustrative material. Some lines are found to be shorter, some longer; some solids larger, some smaller. Lines may be drawn by the children equal to, or longer or shorter than certain lines made by the teacher. Surfaces may be used in the same way. With solids, the children may find those greater or smaller or equal to those presented. They may build up solids of different sizes. The teacher presenting a large cube, may ask the children to make one equal to it of the smaller cubes which they have, etc., all results whether in judgment or building being carefully tested. Many and varied exercises along this line, will make children accurate in observation and execution, and lay a sure foundation for the oral expression which follows. The exercises suggested are only a few of those which may be used, and serve merely as an example of the kind of work to be done.

The next work will be to apply the number terms; the children learn to recognize the 1, the 2, the 3, in any group of surfaces or solids. Given the 1, they find the 2, the 3, the 4; or given the 3, they find the 2, the 1. Comparisons are made: viz., the 2 is twice as large as the 1, the 1 is one-half as large as the 2, the 1 is as large as one-half of the 2, the 3 is as large as three 1's, the 3 is three times as large as the 1, the 1 is one-third of the 3, the 3 is three times as large as one-half of the 2, etc. Combinations and separations are made at first objectively and by means of drawings.—the 1 and the 2 taken together equal the 3, the 3 equals the sum of the 1 and the 2, the 3 is 1 greater than the 2, the 3 is 2 greater than the 1, the 1 is 2 smaller than the 3, the 2 is 1 smaller than the 3. The abstract statements are given that 1 and 2 equal 3, 2 and 1 equal 3, 3 is equal to 1 and 2, etc. Gradually the range of numbers is increased and all the simple operations based upon comparison of size are performed. Fractional work is a strong feature throughout, and arises naturally from a comparison of the size of the various units. Work in denominate numbers using common measures may be used extensively and will furnish one of the best means of understanding number. The child can first use the measures for himself and then make all possible comparisons as to their relative sizes.

This method of teaching number lays a foundation for all future work at the beginning. Every relation that can be expressed by means of num-

ber is shown in its fundamental meaning. When a child knows the relation we call 8, he knows all the processes connected with it. He understands, too, that this scale of relation varies, that while 8 always expresses the same relation, the size of the unit it represents may at different times be very different depending upon the unit which is in the given scale.

The method leads quickly to the abstract. Only the first work need be objective: the child having perceived the different number relations is ready to use, understandingly, the abstract expressions which represent them. Any number expression will always clearly represent to him the relation of a given quantity to a measuring unit of the same character.

With the fundamental idea of number thus developed, subsequent work in arithmetic will move along more easily and more rapidly, processes will be readily understood and less objective work needs to be done. While this change in method will affect all arithmetic work, at present it applies more directly to primary grades, for here at the beginning will be the greatest change. Primary teachers will do well to make a careful study of the subject and be ready to move in the advance.

ELIZABETH E. PERRY,
Critic Teacher.

AKRON NORMAL SCHOOL, AKRON, O.

A LESSON ON THE BEAN.

I.

No enthusiastic farmer and gardener ever looked forward to the opening of spring with greater anticipations than the first year class looked forward to a promised day when they might each plant a bean in a box of earth.

Everything was in readiness for the auspicious occasion. Jennie and Esther remembered to bring the beans, and already those same beans had been used in a recitation. Jimmy carried the box, which was to serve as a miniature garden, for fully a mile from his home. Dick brought the soil in a paper bag as carefully as if it had been choice confections, and on the morning of the planting, the teacher slipped a mysterious bottle from under her jacket, when she came into the school-room, and hid it snugly behind a large book.

When the class was called (perhaps you have guessed that it was a geography class advanced to products of the home garden) an excited hand came up.

"You've forgotten something," said the owner of the hand, who also possessed a good memory and a pair of keen black eyes, "You said you

would soak some beans for us to look at this morning."

"Yes, you did," assented more hands and faces, and a few tongues that couldn't wait for permission to speak. Such disappointment! It was really too bad! and the teacher tried to look very sorry. But keen eyes saw through the sham and some one said, "Yes, you did remember, you brought them, didn't you?"

Of course that was the triumphant moment and the bottle, wherein the beans were soaking all this time, was forthwith produced.

There was a bean for each member of the class. One would have thought that the one earthly possession worth having is a bean. The aim was to find the baby plant and then a magnifying glass was passed that each might see it more plainly. One little girl could hardly contain herself when she saw for the first time the tiny leaves and the veins as perfect as in a full grown plant. Many questions were asked, but the bean itself or the children gave most of the answers.

Then the whole beans were distributed (for, in their examination, the first were ruined for planting) the class gathered about the table and each in turn deposited his bean in the box of soil, buried it with his own hand, and felt that his work was done for the present.

The committee on light, heat and moisture did their work faithfully and carried the box to and fro as it required heat from the stove or light from the window.

There came a long cold season, but the children never once forgot their precious box. The beans were full two weeks in sprouting, but were greeted with all the more joy when, at last, they raised their heads and began to stretch, after their long sleep.

They will be the basis of many a lesson, and when spring has come in all her wealth of growing things, there will be eyes that watch with more loving interest because nature's processes have been observed, while the little ones were co-workers with her.

II.

Jack's famous bean stalk caused no greater wonder and admiration than our miniature garden of beans. Rich soil, despite the old saying "too poor to grow beans," and a sunny south window, made their rapid growth almost a revelation to the ardent little gardeners who watched for the results of their planting.

Nothing escaped their eyes. When once each week the teacher called for facts and measurements she was often surprised at the minute details reported. For instance, one rainy mor-

"toad stool," not much larger than a pin head, trespassed on our bean patch and every child in the room saw it, because of the quickness of a few, and felt a wholesome interest in its short life.

The school-room was well furnished with blackboards, so one entire space quite near the growing pets, was given up for a record of their progress. The top line stated in a plain, bold hand the date of planting, and was further enhanced by a drawing of a bean enlarged to mammoth proportions.

Afterwards dates and drawings, together with measurements made by the children were added at least once a week. Green chalk was used for the leaves as the plant developed, and the effect was rather pretty. Instead of adding to one drawing a new one was made each time representing the stage of development on that date.

Such drawing requires no special skill, and has the advantage which original work always has over ready-made or copy work. A very ordinary reproduction of what the children saw growing day by day was better for them than pictures which, however perfect, were not pictures of their own seeds and plants. Some of the children, too, succeeded fairly well at drawing from nature. This they did from time to time on slips of manilla paper and used colored pencils when available.

A number of language lessons were based upon the growing beans, so that before spring the little folks had acquired a vocabulary of new and useful terms. They learned both written and spoken language and often showed surprising thought in their exercises.

The most enterprising of our plants actually bloomed and produced two or three tiny pods before the term closed, so that the children watched the whole cycle, from planted seed to reproduction. The morning that the first blossom bud showed color the teacher was overwhelmed with announcements of the fact, but the falling of the blossom was mourned in true child fashion until the growing pods told their own story of better work being done.

Fortunately, or unfortunately, the plants were at their best when school closed. To me it seemed well that the little ones did not observe the death and decay of their cherished pets. That lesson is better learned out of doors, where results are more perfect and seeming death means but the maturing of new seed for new life.

So far as the teacher's part went these lessons on the bean might have been better conducted, many points could be and should be improved upon, but that they were quite a failure I am not ready to admit. The very homeliness of the material adds to the practical value of the lesson. I am sure children who learn by their own observa-

tions what a miracle of life is enfolded in a single bean will be the richer for their knowledge, and in a fair way to add to their riches.

Who knows how much of the real and living faith in life eternal—faith we will so need some day—may come from those lessons of childhood which teach almost unconsciously that life of any sort is something very wonderful and that we do well to bow reverently before its Giver.

BERTA KNOWLTON BROWN.

Oxford, O.

NATURE STUDY FOR THE SPRING MONTHS.

In the selection of material for nature study, the teacher is guided naturally by the season; in the fall, plant work, a little later animal life, during the winter months, elementary physics and minerals, and in the spring, when all nature is reviving, again returning to the study of plants. Children are interested in everything which has life and grows, and often suggest its study, themselves, by bringing the first pussy-willows they find to the teacher. This interest should be cultivated and strengthened by systematic study, conducted in such a way as to bring the children into close sympathy with all of nature's productions. To accomplish this, we should not make the mistake of having structure the most prominent topic in our plant study, but begin with that which appeals most directly to the child,—the life and work of the plant; i. e. the life history and function, and then structure may be brought in as a minor point to show how nature has adapted each part of the plant through its own peculiar construction to the work it is intended to perform. Indirectly, the children are led to feel that the same wise Creator who protects and cares for us, cares for all His creatures in the same way; also, that these things which have been so beautifully and carefully constructed to do an important work, should not be carelessly destroyed.

All are but parts of one stupendous whole,
Whose body Nature is, and God the soul.

The general topics to be used in plant study are; first, a consideration of the home of the plant or relation to natural environment; second, its life, history of growth; third, its work (function); fourth, adaptation to function (structure); fifth, comparison with other plants, and classification. The order and number of the topics taken up will vary somewhat according to the specimen studied; e. g., in the study of buds, the first and second topics would not receive as much attention as in the study of a whole plant.

Hardly any teacher could let the spring go by without some attention to that prominent feature of plant life—the putting forth of buds and burst-

ing into new life. Horse-chestnut buds are especially good for this study. They are of large size, showing the function of each part plainly, and the perfect adaptation to function. The lilac, willow and cherry could be studied next and comparisons made. If little work has been done along this line, a study of the twig, as a whole, with some preliminary work on the stem, might be an advantage. The following simple outline may be used in studying the horse-chestnut twig in primary grades.

HORSE-CHESTNUT TWIG.

1. Consists of two parts, stem and buds.

2. Stem.

- | | |
|------------|---|
| a. Size | { Length and diameter given according to specimen. |
| b. Shape | { Cylindrical. — children first describe shape in their own language and then select from a group of solids, the one the horse-chestnut stem most nearly resembles. Teacher develop term. |
| c. Color | { Gray or grayish brown, according to specimen. |
| d. Surface | { Rough, many scars upon it left by leaf stems, scars because of resemblance to horse-shoe gave name to tree. Children draw pictures of scars. |
| e. Parts | { Bark.
Wood.
Pith.
Children draw cross section showing parts. |
| f. Use | { To carry nourishment to buds, leaves and flowers, adapted to this use by its tube-like construction and by having spaces between the parts. |

3. Buds.

- | | | |
|-------------|---|---|
| a. Position | { Mostly at ends of twig (terminal).
Some coming from leaf-scars (axillary). | |
| b. Size. | —according to specimen. | |
| c. Shape. | —described by drawings. | |
| d. Color. | —brown. | |
| e. Surface | { Covered with scales.
Sticky. | |
| f. Parts | Covering | { Scales { To protect parts inside from cold, etc. Adapted by closeness of arrangement. Held together by gum. |
| | Gum | { To keep out moisture, insects, etc. |
| | Cotton | { To keep leaves and flowers warm. |
| | Leaves or flowers | { Twigs kept in water in school-room and development of these parts watched and studied. |
| g. Use. | —to produce flowers and leaves. | |

This plant study may be made the foundation for language work and drawing. After the development in each lesson, the teacher leads the children to summarize in oral statements what they have learned. These statements the teacher writes in correct form on the blackboard, and the children copy them, using, after the first year, pen and ink. In the third year and afterwards, the children will be able to make these written reproductions more independently, working from topics written on the board instead of copying from the teacher. The reproductions may be illustrated

throughout by drawings of the different parts as they are mentioned, or the teacher may have special periods for drawing, and, if possible, for painting the leaf, bud, flower, etc., which has been studied, each child working from the object and trying to reproduce the thing just as it appears to him. As much literature as possible should be brought into the work. Many delightful little books are now published, furnishing appropriate selections along almost every line of plant study. Suitable poems and quotations may be used; e. g., in the study of the horse-chestnut the lines from Lowell:

Then gray horse-chestnuts lectle hands unfold
Softer'n a baby's be at three days old.

After the study of buds, the teacher comes to what is, perhaps, the most important plant study in the spring—the germination of seeds. By planting certain carefully selected seeds and watching their development, the complete life history of the plant from seed to formation of seed, with the development and use of each part, may be studied. In the early work the bean or the pea will be found [the best specimens. They should be planted in boxes in the school-room. Some may be planted on damp sponges or on damp blotters in glass dishes for the immediate study of germination and growth of roots. Each part should be studied as it develops. It would be better to take one of these seeds, preferably the bean, as the parts show more distinctly at first, for the closest study, and use the other seed for comparison.

The first work is a study of the bean itself; first taking the hard bean, and next the bean which has been soaked a day or two, so as to distinctly show the little plant inside.

The teacher may at first present seeds of various kinds, so as to lead the children to the idea of seeds and to show that the bean is a seed. Then the bean may be selected from the others as the object of particular study, and each child supplied with one or more specimens. As an introduction the children should tell all they can about where they have seen beans growing, the height of the the plant, its appearance, etc. The work may then be taken in the following order:

BEAN SEED.

1. Relation to environment. (discussed).
2. Function { To produce new plants as food for man—because of large amount of nourishment it contains.
3. Structure.
 - Hard Bean.
 - a. Size.
 - Longer than wide.
 - Sides curved.
 - Illustrate by drawing.
 - b. Shape.
 - Smooth.
 - Shiny.
 - Hard.
 - White.
 - Scar—caused by attachment to pod.
 - c. Characteristics.

Soaked Bean. d. Parts.

- | | |
|-------------------------------------|--|
| (1) Seed—coats | { Soft.
Smooth.
Tough.
White.
Translucent—light can be seen through them but not objects.
Use—protection, how adapted to use. |
| (2) Seed—leaves
or
Cotyledons | { Number.
Shape—flat on one side, curved on the other. Draw.
Smooth.
Hard.
Yellowish white.
Use—to protect and nourish little plants. Adaptation. |
| (3) Little plant
or
Embryo | { Parts.
1. A slender, round, white part.
2. Two little leaves.
Make drawings. |

By the time this work is finished the beans upon the blotting paper will be ready for study and the children may discover how the parts of the embryo develop.

ELIZABETH E. PERRY,
Critic Teacher.

AKRON NORMAL SCHOOL, AKRON, OHIO.

(To be continued.)

PEDAGOGICAL CREEDS.

I believe that this is a sane, well-ordered universe, and that the natural tendencies in it are toward higher forms. I believe that the problem of the educator is to find these large upward-moving tendencies in civilization, and to do all in his power to foster and encourage them.

I believe these laws can be discovered through a study of the history of ideas and ideals, and through a direct study of the natural history of human beings from childhood to old age. I believe the great problem of this immediate generation is to work out the natural history of human beings as a basis for educational activity, and I believe that when this is fairly accomplished we shall find that what we have is a philosophy of life and life's possibilities, not materially different from philosophies held in the past, but perfected in many details.—*Earl Barnes, Professor of Education in Stanford University.*

I believe accordingly that the primary basis of education is in the child's powers at work along the same general constructive lines as those which have brought civilization into being. I believe that the only way to make the child conscious of his social heritage is to enable him to perform those fundamental types of activity which make civilization what it is. I believe therefore in the so-called expressive or constructive activities as the center of correlation.—*Professor John Dewey in The School Journal.*

OUR LEGAL DEPARTMENT.

R. D. FISHER.

COMMON SCHOOLS. II.

3. *Compensation.*—A teacher engaged for a specified term, who is discharged without cause, may recover compensation. The measure of damages ordinarily is the amount of the stipulated wages, though the recovery is always subject to mitigation by proof either of earnings or their possibility. If a teacher is wrongfully dismissed, or if he leaves the school because of the unjustifiable action of the school officers, he may recover compensation for the whole time of his contract less what he might have earned. This rule prevails in Ills, Mo. and Vt., but it is different in Massachusetts, where by statute a teacher may be discharged at any time.

In an action against a school township by a teacher to recover his salary, it is not necessary to allege or prove that the township has funds on hand wherewith to pay the claim. 80 Ind. 276; 96 Ind. 185.

When the compensation of a public school teacher is neither fixed by statute nor by his contract, he may recover on a *quantum meruit*. 16 La. 163.

The authorities are not harmonious as to a teacher's right to compensation during the time of the closing of the school on account of want of money, or of the prevalence of a contagious disease, or of the burning down of the schoolhouse. That he may not so recover is asserted by the courts of Tenn., Oregon, Mo., Ill. and Vt. while in Michigan it was held that a recovery for the full term should be allowed, less a deduction for money earned otherwise. See 43 Mich. 480.

A teacher to be entitled to his compensation, must perform the ordinary duties pertaining to his office, together with those specially stipulated for in his contract, and statutory provisions must also be complied with.

When by the contract a teacher is required to make a certain report and such report is a condition precedent to his salary, he must show that he has complied with this requirement in order to recover. 107 Ind. 351.

Merely closing school for a few days without the consent of the school officer or officers will not prevent a teacher from recovering compensation upon his contract for the time he actually taught. 20 Vt. 187.

Mandamus has been held sometimes a proper remedy to compel payment of a public school teacher's salary. A school teacher who has rendered services, according to the requirements of the school law, and is refused compensation out of

the fund especially provided for that purpose, is entitled to a *mandamus* to compel the proper officer to perform his duty and make payment of what is justly due. 34 N. J. L. 308.

4. *Discharge.*—A teacher may be discharged by the proper authorities, for incompetency, neglect of duty, or immoral conduct, notwithstanding that his employment was for a time certain. 42 Ind. 200; 17 Ill. App. 347; 6 Neb. 167, and other authorities. But the school officers have no power to discharge a teacher without good cause shown. 55 Mo. 153 and other authorities. And although for an illegal discharge, if acting within the scope of their duty and without malice or wantonness, school officers are not personally liable, still if they exceed their authority or act oppressively, they are so liable. 51 Ind. 206; 49 Pa. St. 151; 55 Mo. 149.

In some states it is held that the remedy for a teacher who has been wrongfully discharged is by appeal to the county superintendent, and until he has made such an appeal he cannot recover for breach of contract. (See 53 Iowa 585.)

Where a contract with a teacher provides for his discharge if he does not give "satisfaction," the school authorities may discharge him at pleasure and are not confined to statutory causes for dismissal, if they act honestly and in good faith. So held in Ill., Vt. and Kansas. But in Wisconsin (50 Wis. 651) it was held that a clause in a contract by which the board declares that "we reserve the right to close the school at any time, if not satisfactory to us" was unauthorized by law and inoperative. The Supreme Courts of Missouri and Colorado have rendered similar decisions.

It has been held in some cases that a teacher cannot be dismissed for cause, unless notice is given him and trial had. 150 Pa. St. 78; 5 Lea (Tenn.) 691. In the latter case it was held that a notice to the teacher that the school authorities would try his "fitness," is insufficient. (See, also 12 Mass. 244.) A discharge by any other proceeding than that prescribed by law is illegal and wrongful. 82 Iowa, 686.

In New York and Kansas, under statute, it has been held that a teacher might be dismissed without cause ascertained or shown, or opportunity to be heard against removal. (See Laws 1882, ch. 410, 47 Hun. (N. Y.) 13 and 30 Kans. 268.) The modern rule of law, however, is by notice and right to be heard.

It has also been held that *mandamus* is the proper remedy to compel the school authorities to reinstate a teacher who has been illegally discharged. 43 Hun. (N. Y.) 537. 10 Lea. (Tenn.) 219 and 82 Cal. 483.

INDIANAPOLIS, IND.

INDIANA'S EDUCATIONAL CONTROVERSY.

We present here in full the educational bill known as the Geeting Bill, which failed in the late General Assembly. We asked Superintendent Geeting to state why the bill should have become a law, and President Mills to state why it should not, and print here their communications. We hope every teacher in Indiana will read the bill and the statements.—Eds.

SENATE BILL NO. 59.

A bill for an act concerning the common schools of this state, the election, powers and duties of certain officers thereof, providing a penalty for violating some of its provisions and repealing certain sections of the present existing school laws.

SECTION 1. *Be it enacted by the General Assembly of the State of Indiana,* That the School Trustees shall have charge of the educational affairs of their respective townships, towns and cities. They shall employ teachers, establish and conveniently locate a sufficient number of schools for the education of the children therein; and build and otherwise provide suitable houses, furniture, apparatus, and other articles of educational supplies necessary for the thorough organization and efficient management of such schools. At least one term of school not less than six months in duration shall be taught in every school district and town of the State during each school year after August, 1899, in addition to other and shorter terms that may be taught during such period. Such Trustees shall also establish and maintain in their respective townships, towns and cities, at least one separate high school into which shall be admitted all pupils who are sufficiently advanced for admission therein, or who have graduated from the primary schools of the State and who are entitled to the privileges of the common schools of such township, town or city. In addition to the studies and branches of learning taught in the primary schools of this State, there shall be taught in such graded high schools of a township or town, such other branches of learning and other languages as the advancement of the pupils may require, and the State Board of Education from time to time direct; and in the case of a city, as the Superintendent and Board of Trustees thereof may direct. Such Trustees shall have the care and management of all property, real and personal, belonging to their respective corporations for school purposes, except the congressional township school land, which lands shall be under the care and management of the Trustees of the civil townships to which such lands belong; and they shall also have the power, in addition to the powers elsewhere conferred upon them by law, to purchase suitable grounds for such high schools or graded schools, and erect buildings thereon, and the title to all such property acquired for such purposes shall vest in the school township, town or city in which it is situated. The School Trustees of cities and townships or towns and townships, or two or more townships, may establish ~~in~~ ⁱⁿ graded high schools, in lieu of a ~~high school~~ ^{high school}, for each of such

school corporations, and when so done they jointly shall have the care and management thereof, and select teachers therefor, hereby being empowered to purchase suitable grounds therefor and erect suitable buildings thereon, the title thereto vesting jointly in the corporations purchasing such grounds and erecting such building. In selecting teachers for and controlling joint schools, as well as in the erection and repairing of the buildings, these corporations shall have an equal voice and authority, and the course of study for such schools shall be arranged in the same manner as for separate graded high schools. Any Township Trustee, instead of building a separate graded high school for his township, may pay the tuition of pupils of his township competent to enter a graded high school, to another school corporation, if he can make suitable arrangements with such other corporation; in which event the pupils of his township, competent and entitled to enter a graded high school, shall have all the privileges of the graded high school of such other school corporation so long as such arrangements shall continue, the same as if they resided in such other corporation. Such payments for tuition shall be made out of the special school revenue.

SEC. 2. That the Township Trustees of each county of this State shall meet at the office of the Auditor of their county on the first Monday of June, 1897, at 10 A. M., and every four years thereafter, and elect a County Superintendent for their county, who shall be a citizen of such county. Such County Superintendent shall hold his office until his successor is elected and qualified, unless sooner removed. Before entering upon the duties of his office he shall subscribe and take an oath to perform faithfully such duties according to law; which oath shall be filed with the County Auditor. He shall also execute a bond, with freehold security, to the approval of the County Auditor, payable to the State of Indiana, in the penal sum of one thousand dollars, conditioned for the faithful discharge of his duties according to law, and faithfully to account for and pay over to the proper persons or officers all moneys and property which may come into his hands by virtue of such office. As soon as such bond be filed the County Auditor shall report the name and postoffice address of the person so elected to the State Superintendent of Public Instruction. Whenever a vacancy may occur in the office of County Superintendent the said Township Trustees, on at least three days' notice given by the County Auditor, shall assemble at ten A. M. on the day designated in such notice, at the office of such Auditor, and fill such vacancy for the unexpired portion of the term. In all elections of a County Superintendent the County Auditor shall be clerk of such election, and give the casting vote if there be a tie. Such Auditor shall keep a record of such elections in a book kept for that purpose. The State Board of Education shall have power to try and to dismiss any County Superintendent for immorality, incompetency or general neglect of duty, or for acting as agent for the sale of any text-book, school furniture or maps, upon written charges filed against

State Superintendent of Public Instruction, who shall issue his receipt therefor to the County Superintendent and carry the amounts of money so received to the account of the State Board of Education, which shall use such funds in the employment of a sufficient number of qualified persons to grade the manuscripts and perform the services incident to the operation of the license system instituted by this act. The State Board of Education shall publish annually an itemized statement of the receipts and disbursements of the moneys contemplated in this act. No examination shall extend over a period of more than two days, and shall be conducted in the immediate presence of the County Superintendent, pursuant to such instructions and directions as the State Board of Education may provide. The manuscripts containing the answers to said questions shall be delivered by the applicant to the County Superintendent, who shall designate the same by number. The County Superintendent shall then record both the number of the manuscript and the name of the applicant in a record for that purpose, and send the fee named above and the grade of "School-room Success," if known, and the manuscript of the applicant, numbered as above, to the office of the State Superintendent of Public Instruction, who shall make all necessary rules and regulations not otherwise provided by the State Board of Education, for the successful execution of this section. Before any applicant can be examined he shall produce to the County Superintendent a certificate of good moral character from a school trustee of the county, then in office, or other satisfactory written evidence of good moral character, which certificate, or other evidence, shall be marked filed of that date by such County Superintendent and a copy, indicated by number corresponding to the applicant's number on his manuscript, sent with such applicant's answers and "School-room Success" to such Superintendent of Public Instruction. The "School-room Success" of a teacher employed in a city or town school shall be certified to by the Town Superintendent (if there be one) or City School Superintendent in addition to the certificate of the County Superintendent. Such certificate or written evidence of character may be dispensed with if the County Superintendent will certify to the State Board of Education that the applicant has a good moral character. If from the ratio of correct answers and other evidence disclosed by the examination, the applicant is found to possess knowledge which is sufficient, in the opinion of the State Board of Education, to enable him successfully to teach, in the common schools of the State, orthography, reading, writing, arithmetic, geography, English grammar, physiology, the History of the United States, scientific temperance and literature, to govern such schools, and is versed in the the Theory of School, said State Board of Education shall grant him a license for a term of twelve (12), twenty-four (24) or thirty-six (36) months, valid for teaching the above branches only; and for sixty (60) months, the latter to be known as a High School License, for use in the commissioned and non-commissioned high schools of the State, according to the ratio of correct answers and other evidence of qualifications given upon said examination, the standard of which licenses shall be fixed by the State Board of Education; and in examining persons for positions to

teach in graded schools, towns and cities, the State Board of Education may take into consideration the special fitness of such applicants to perform the service required of them, and shall endorse or insert in the license issued to them a statement of the kind of work for which they are specially qualified. Any person possessing a thirty-six (36) months' license, may, during the term for which such license is in force receive a license for the term of eight (8) years upon such examination held by the County Superintendent as may be prescribed by the State Board of Education; and such license shall be issued only upon approval of such State Board of Education; and be styled a Professional License. Any person who has previously taught for six (6) consecutive years in said common schools, and shall hereafter obtain a three (3) years' license to teach therein, so long as he teaches the above named subjects, shall be forever afterward exempt from examination; but if such person shall, at any time after said exemption occurs, suffer a period of one year to pass without having taught one full school year in the common schools of the State within said period, then said exemption shall cease. If said person shall, during such exemption, seek employment to teach other or higher branches in the common schools of the State than those branches which were included in the examination upon which said three years' license was issued, then he shall be examined in such additional branches. If the examination in these additional branches be satisfactory to the State Board of Education, the exemption may be extended to cover such additional branches. The State Board of Education upon proper affidavit or affirmation of the applicant, satisfactory to it, showing such applicant entitled thereto, may issue an exemption license; but such license shall be subject to the same legal limitations as other licenses. All county licenses now in force shall be considered valid, but can only be used in the counties in which they were granted; but after the expiration of such license all applicants shall be examined by the State Board of Education, as above prescribed. If from any cause, there be no licensed teacher during a term of school, the County Superintendent may issue, upon petition of the School Trustees, a temporary teacher's license, upon examination, to the person named in such petition, and report the same to the State Superintendent of Public Instruction, which shall entitle the holder thereof to teach in such school until the time of the next regular examination under this act, at which time such person shall be required to pass successfully the regular examination in order to secure a regular license. The Board of County Commissioners shall allow and pay the County Superintendent of their county all costs incurred by him for postage, stationery and records in carrying out the provisions of this section, upon his making to them satisfactory proof thereof.

SEC. 6. That the County Superintendent shall have the power to revoke licenses heretofore granted by himself or predecessors or hereafter granted by the State Board of Education, for incompetency, immorality, cruelty or general neglect, by the holder, of the business of his school. Due notice of such revocation shall be given in writing by the County Superintendent, after which an appeal therefrom shall lie to the State Superin-

tendent of Public Instruction, and if the same be taken within five days after notice is given it shall operate as a stay of proceedings until the State Superintendent of Public Instruction shall have passed upon such appeal. The revocation of the license of any teacher shall terminate his employment in the school in which he may have been employed to teach.

SEC. 7. That the County Superintendent shall provide a blank book, at the expense of the county, in which he shall keep a record or minutes of his proceedings, and shall deliver such record, and all other books, papers and property appertaining to his office, to his successor. He shall also keep a record of all applicants to him for a license who secure one; and the kind and length of the license as reported to him; as well as the number of licenses revoked by him. He shall report to the State Superintendent of Public Instruction the names (and dates thereof) of those whose licenses he revokes.

SEC. 8. That the compensation of the County Superintendent shall be as follows: In counties having less than 15,000 population, he shall receive per annum \$1,000; in counties having 15,000 and less than 30,000, he shall receive per annum \$1,200; and in all counties having 30,000 and over, he shall receive per annum \$1,500. His salary shall be payable quarterly out of the funds in the county treasury upon the warrant of the County Auditor. The Board of County Commissioners shall provide him with an office and all necessary office furniture, postage, fuel and record books.

SEC. 9. That the School Trustees of incorporated towns shall have power to employ a Superintendent of Schools, whose term of office shall be two (2) years and may be four (4) years, and whose salary shall be paid from the special school revenue, and that the School Trustees (or Commissioners) of incorporated cities shall have power to employ a Superintendent of Schools, for a term not exceeding four (4) years, and whose salary shall be paid from the special school revenue. Such School Trustees shall prescribe his duties and direct him in the discharge of the same. It shall not be lawful, however, for any city or town School Board or Trustees to employ as Superintendent of the Schools of their city or town any person who does not hold at the time of his employment a life or professional license to teach, or a City School Superintendent's certificate, issued by the State Board of Education, or license of a similar grade to those named in this section, issued by corresponding authorities in another State or country; but no such Superintendent so holding a license of such other State or country shall be employed as a City or Town Superintendent unless, before such employment, he secure the endorsement of the State Board of Education upon his certificate, certifying to his qualifications. The State Board of Education shall have the power to adopt rules and regulations for the examination of applicants for a City or Town Superintendent's certificate, and prescribe what qualifications shall be necessary to secure one. But the provisions of this act shall not operate to render ineligible to reelection or reappointment any City or Town School Superintendent now holding a position as such in any city or town of this State. After the first Monday of June, 1901, however, no one shall be eligible to the office of Town Superintendent unless

he hold a City or Town Superintendent's certificate. In a town or city having a School Superintendent no one shall be employed to teach in its public schools whose selection and employment is not approved by such Superintendent. The Superintendent of a town or city school shall have the power and authority to designate the particular school or grade in which a teacher employed by the School Board shall teach.

SEC. 10. The State Superintendent of Public Instruction, the President of the State Normal School, the Superintendents of the common schools of the largest three cities in the State, the President of the State University, the President of Purdue University and four citizens of the State appointed by the Governor, two of whom shall be County School Superintendents, shall constitute a Board to be denominated the Indiana State Board of Education. The size of the cities shall, for this purpose, be determined by the enumeration of children for school purposes, annually reported by County Superintendents to the Superintendent of Public Instruction. The Superintendent of Public Instruction shall, *ex officio*, be President of the Board; and in his absence the members shall elect a President *pro tempore*. The Board shall elect one of its members Secretary and Treasurer, who shall have the custody of its records, papers and effects, and shall keep minutes of its proceedings: *Provided*, That such records, papers, effects and minutes shall be kept at the office of the Superintendent, and shall be open for his inspection. The said Board shall meet upon the call of the President or a majority of its members, at such place in the State as may be designated in the call; and shall devise, adopt and procure a seal, on the face of which shall be the words, "Indiana State Board of Education," and such other device or motto as the Board may direct—an impression and written description of which shall be recorded on the minutes of the board and filed in the office of the Secretary of State; which seal shall be used for the authentication of the acts of the Board and the important acts of the Superintendent of Public Instruction.

SEC. 11. That whosoever shall sell, trade, barter or give away, or offer to sell, barter, or give away to applicants for license, or to any other person; or whosoever shall buy, purchase, barter or trade for, or accept as donee, the questions prepared by the State Board of Education, or by the State Superintendent of Public Instruction, to be used by County School Superintendents in the examination of teachers, or in any way dispose of or accept as donee, said questions or otherwise, contrary to the rules prescribed by said State Board of Education or said State Superintendent of Public Instruction, shall be deemed guilty of a misdemeanor, and on conviction shall be fined in any sum not less than ten nor more than one hundred dollars.

SEC. 12. That sections ten (10), thirty-six (36), thirty-eight (38), one hundred and fifty-nine (159) and one hundred and sixty-one (161) of an act entitled "An act to provide for a general system of common schools, the officers thereof, and their respective powers and duties and matters properly connected therewith, and prescribing the fees for certain officers therein named, and for the establishment and regulation of township libraries, and to repeal all laws inconsistent therewith, provid-

ing penalties therein prescribed," approved March 6, 1865, being sections 4426, 4428, 4444, 4521 and 4523 of the Revised Statutes of 1881; also sections two (2), three (3), four (4), five (5) and twelve (12) of the two acts approved March 8, 1873, the first four sections respectively amending sections thirty-three (33), thirty-seven (37), thirty-nine (39) and forty-three (43) of the above named act, approved March 6, 1865, the same being sections 4424, 4427, 4429 and 4433 and the fifth being section 4445 of the Revised Statutes of 1881; also section one (1) of an act entitled an act to amend an act entitled, an act to amend section one (1) of an act entitled an act to amend section thirty-four (34) of an act entitled an act to provide for a general system of common schools, the officers thereof and their respective powers and duties and matters properly connected therewith, and prescribing fees for certain officers therein named, and for the establishment and regulation of township libraries, and to repeal all laws inconsistent therewith, providing penalties therein prescribed, approved March 6, 1865, approved March 6, 1883, approved March 2, 1889, approved February 25, 1893; and also section one (1) of an act entitled "An act to prohibit the selling, bartering or giving away the questions prepared by the State Board of Education to be used by County Superintendents in the examination of teachers, and providing penalties therefor," approved March 3, 1883, as well as all statutes and parts of statutes in conflict herewith, be, and the same hereby are, repealed: *Provided*, That nothing herein shall affect the rights or title of any person now holding any of the offices herein mentioned, nor the right of any teacher now holding a license to teach in the public schools, but such rights, title and licenses shall continue in force the same as if this statute had not been adopted.

SUPERINTENDENT GEETING'S STATEMENT.

The general educational bill, known as Senate Bill No. 59, was prepared by a committee of the State Teachers' Association, appointed December, 1895.

In the preparation of this bill the committee attempted to strengthen the weak places in our present laws, only, basing all changes on the thought that the school exists for the child, and not for the teachers and school officials. A careful, unbiased and unprejudiced reading of the bill will convince the reader that it is written in harmony with this statement. The changes would not have been radical in any particular.

The first and paramount thought in the minds of the committee was the improvement of the district schools, through,

1. The provision for township high schools.
2. A minimum school term of six months.
3. Providing educational qualifications for county superintendents and making their work more professional.
4. Placing the estimate of all applicant teachers' licenses on two distinct bases: *Scholarship*,—to be determined by a

party; (b) *Success*,—as shown by actual school-room work observed by the Superintendent,—and when so estimated making every license a state license.

5. The schools of towns and cities were to be improved by requiring qualifications of their superintendents, then making them responsible for the management of the schools and results of teachers.

There are many reasons why this bill should have become a law. Since the adoption of a uniform course of study under our state uniformity of school books, marked improvement has been made in the classification of pupils in the district schools. This course of study has so far provided work for the first eight years of the school life of these pupils. We are now faced with a serious problem,—what to do with the thousands of worthy boys and girls just ready to help themselves and to develop rapidly into strong, vigorous citizens. To deprive them of further educational advantages is to violate the law of the state; but to require them to re-enter the grades through which they have gone successfully is not only unlawful, but positively harmful to the school organization.

The trustees of towns and townships are compelled, under present laws (sections 4497 and 4499, school law) to furnish high school advantages to all qualified children, on demand of the patrons. Section 4499 makes it the duty of the trustees to furnish the advantages in *every district* in the township if the demand is made, making it very expensive, indeed, if all ask for the high school work. The educational bill provides for this work in three ways, either one of which would be much better, and cheaper, as follows:

1. By building a house for high school work in each township.
2. By building joint schools.
3. By the payment of tuition.

In a large majority of the townships of the state the last provision would have been the one adopted, and, in the main, one that would bring new and vigorous workers into the ranks of both city and town schools. As a state we do not rank with some of our neighbors in this particular, and the great step to be taken in Indiana now is the establishment of an adequate high school system for the country schools,—a system that shall give to every child within her borders a good high school education without regard to his place of residence. In so doing we will have immensely

chances of success in life.

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pense, and the committee decided on six months as a reasonable term.

Qualifications of county superintendents cannot be questioned. The superintendent is an invaluable officer. In our state the erection of school buildings, and the purchase of supplies are, in a measure, subject to his judgment. But in the creation of a proper school sentiment, and in the direction of his teachers he finds his greatest field. The fact that the majority of the pupils in our country schools never go to college, makes an imperative need of some direction in studies so that they can make the most of their opportunities.

The superintendent is often the only person who can see the end from the beginning of the child's education, the attention of the teacher being largely absorbed in the work of a particular grade. To do such work requires some one of a high order of skill, and no one should be appointed to such positions without being required to show ability to perform it. Under the present law this office has been made a clerical one largely,—it needs to be in *fact* what it is in *name*, and the proposed bill would have made it such.

Something must be done to give the teachers of the district schools assistance in the way of supervision, because a large per cent. of the energy of both teachers and pupils is now wasted, due to misdirection. A school may be a good school, yet if it never receives a visit from a good superintendent it must suffer loss. If the coming of the superintendent is hailed like sunshine on a cloudy day, if his presence is an inspiration to more earnest efforts, if he is at all times hailed as a welcome guest, his influence will not go with his farewell at the door. His personality will leave a trace there that cannot be estimated. The district schools need the direction of our best men and women and to this accomplishment are educational qualifications of county superintendents trending.

If there were but one reason for a change in examination of teachers; viz., that of better returns for the money expended, the plan proposed by the bill could not be assailed. On account of the very great increase in the number of applicants for teachers' licenses—now that no limit of any kind is placed upon these examinations—about one-half the time of the county superintendents is taken in conducting them and grading manuscripts. In this we have clerical work of the severest sort, with no return to the applicants that either inspires them toward higher efforts or assists them in knowing their errors through these examinations. There should be two distinct lines upon which an examination for teachers should be conducted; viz., scholarship and personality; or the estimate of the individual as such. When both

are done by the same person they are blended into but one estimate.

Every teacher should know his standing as a scholar estimated by a disinterested person. His personality should be judged by the one above him in authority and attainments, for the spirit of the teacher is best shown when seen in relation to his work.

Nothing could come to the teachers of Indiana that would more clearly mark the two elements of their worth than the plan of examination proposed by this bill. According to its provisions every tendency toward favoritism would disappear.

The teacher would then be given the state as his field, instead of one county. The bill extended the privileges of the exemption license likewise.

In the matter of cities the bill made it possible for a school board to employ a superintendent for a period of years and to give him a voice in selecting his teachers. He is made responsible for the success of his schools; hence, he should also be given some voice in the selection of his teachers. If his opinion be sought when teachers are employed, fewer poor teachers would find a way into the schools. The teachers who have the scholarship, and are successful in the school-room will hail the day when they shall be placed under supervision measured by tests similar to their own at least, and they will follow such directions much more devotedly, knowing them to be thoughts of competent persons. Children will catch the spirit of their superiors, and will not rest satisfied till similar attainments are reached.

D. M. GEETING.

INDIANAPOLIS, IND.

PRESIDENT MILLS' LETTER.

Editor Inland Educator:

I beg to assure you of my cordial appreciation of your letter of yesterday offering me space in THE INLAND EDUCATOR in which to answer the question "Why the Geeting Bill should not have become a law?" I am ready as a friend of education in Indiana to do any thing in my power to clarify the public mind concerning the real issue involved in the discussion before the late legislature, but inasmuch as the committee of the non-state colleges opposed the decapitation of the above named bill in the House of Representatives, I am not in a position to argue the question which you propose. An analysis of the recorded vote upon the motion to strike out the enacting clause will show that the friends of the state institutions shared largely in the responsibility for the bill's defeat.

I enclose with this an authorized statement of the contention of the non-state colleges. Noth-

ing that I could write would more clearly set forth my own attitude toward the Geeting Bill than does the last paragraph in that article. Notwithstanding the fact that I was in hearty sympathy with action of the non-state colleges I am open to conviction concerning the unreasonableness of the plea that the State Board of Education should be divorced from any official connection with the state institutions before its power shall have been enlarged to the extent proposed in the Geeting Bill. I shall be glad to read the arguments of the opposition to this contention.

Yours truly,

J. J. MILLS.

RICHMOND, IND.

THE AUTHORIZED STATEMENT OF THE NON-STATE COLLEGES.

"There are eight non-state colleges represented in the Indiana College Association, viz: Wabash, Franklin, DePauw, Moore's Hill, Butler, Hanover, Earlham and Union Christian. These colleges own buildings and grounds aggregating in value more than a \$1,000,000. They hold endowment funds amounting to over \$1,500,000. Their combined libraries contain in round numbers 100,000 volumes. Their laboratories and other educational appliances have an aggregate value of not less than \$125,000.

"These plants and financial equipments, representing a total investment closely approximating \$3,000,000, are held in trust by the above named institutions as free gifts from private benefactors, to be used for the general benefit of the commonwealth. Substantial accessions to these trusts are received every year. The educational facilities which they provide are open on equal conditions to all students who apply, and at no expense whatever to the state treasury. These colleges are under legal obligation to see that the above named trusts are administered with the utmost efficiency for the promotion of higher education among the people at large.

"During the collegiate year of 1895-96 over two thousand students availed themselves of the advantages offered by these colleges. Their united alumni rolls contain nearly five thousand names, while many thousand other students who have not taken degrees have received a liberal education within their walls. Among these students are to be found a large proportion of the educated men who are leaders in the official, professional and business interests of our state to-day. From the ranks of these students come many of the men who established and developed our state system of public education. A large percentage of the teachers in the public schools have hitherto been prepared for their work, free of charge to the state, in the non-state colleges. Upon the basis of statistics gathered from sixty-four cities, published in the *Indianapolis Journal* of the 15th inst. and credited to the State Superintendent of Public Instruction, it appears that a conspicuous majority of the teaching force of the high schools of the state has in the past been supplied directly by these non-state colleges.

"These colleges are prepared to continue, with constantly increasing facilities, this gratuitous

contribution to the state's educational work, asking only that conditions of fair competition with other institutions of higher learning be guaranteed to them. The facts above cited, and many more which might be adduced, demonstrate that the non-state colleges have been and are still bearing a notable and important share in the work of popular education without entailing any drain upon the treasury of the state.

"At the same time their many thousands of friends and patrons, who constitute a very considerable proportion of the tax-payers of the state, are bearing without protest their full share in the financial support of the two state universities and the State Normal School. Under these circumstances it is only just and reasonable for these colleges to urge that their interests are entitled to considerable attention at a time when a reorganization of the state's educational system is claiming the attention of the legislature.

"If the people of Indiana have become convinced that the educational interests of the state demand that the student patronage, which has hitherto been drawn to the non-state colleges, should be gradually concentrated, through the channels and influence of the public school system, into the three higher state institutions of learning, then we cannot expect that our present contention will be regarded as valid by the members of the legislature. If the tax-payers of the state see fit to assume the financial burden of so generously equipping the state schools that by reason of the actual superiority of the training which they afford to the youth of the state, and for no other reason, the non-state schools are placed at a disadvantage in competition, then the latter ought to submit without a protest and congratulate the people upon the new educational regime.

"It is proper here to repeat what has already been said through the public press, and in our interviews with the committees on education of the two branches of the legislature, that the non-state colleges propagate no tenets in their institutions and exact no conditions of their professors or students that are hostile to the welfare of the commonwealth, but they are in the highest degree patriotic and contributory to the best interests of the state. We ask for no assistance from the public funds. We emphatically disclaim any desire to participate officially in the management of the state's educational system. Our only demand is for conditions of fair and legitimate competition with institutions supported out of the public treasury.

"The current reports that the non-state colleges entertain a purpose to strike down the State Normal School and the State University, and to abolish the state board of education, are wholly without reasonable foundation. On the contrary, our representatives have plainly stated time and again that they are cordially friendly to the educational work of both the State Normal School and the State University, and especially so to the distinctive work of the latter in its graduate department. We have distinctly avowed our approbation of the state board of education, if only it shall be so constituted as to satisfactorily provide against its influence being used to the advantage of certain of the state's higher seats of learning, and against the non-state schools. Neither has the present contention of the non-state colleges

arisen from any opposition on their part to the standards of qualification for superintendents and teachers set up in the so-called "Geeting" bill. Before both committees of the legislature we earnestly advocate the establishment of such standards.

"The complaint of the non-state colleges is that such a centralization of authority in the present membership of the state board as is provided for in the Geeting bill virtually places the censorship of the superintendent and teachers throughout the state in the hands of Purdue University, Indiana University and the State Normal School.

"Purdue university receives its support from the state treasury on the ground that it is a technical school. As such it certainly has much less logical connection with the common school system of the state than have the non-state colleges. The work of Indiana University, in its undergraduate department, is not essentially different from, or of a higher standard than that done in the non-state colleges. The academic courses in the State Normal School are of much lower grade than those of the non-state colleges, and its specific work of providing teachers for the public schools is shared in a large degree by the non-state colleges. In view of these facts and others herein presented, it is contended that the ex-officio representation of the three state schools upon the board is a discrimination against the non-state schools which ought not to be perpetuated by statute.

"That the state board as now organized does actually constitute such a centralization of influence as has been complained of is apparent from the fact that five out of the seven active members of the board are directly connected with the three state institutions above named, and are personally concerned in furthering the interests of said institutions of learning in the field of college competition. Four members are officially connected with the state colleges; viz., the president of the State University, the president of the Normal School, the president of Purdue University and the State Superintendent of Public Instruction, who is ex-officio trustee of the State Normal School. A fifth member of the board is an alumnus of the State University and a conspicuously active promoter of its interests in the legislature, the State Teachers' Association and elsewhere. It is understood that the governor's connection with the board is practically an honorary one. It, therefore, appears that only two out of the seven active members of the board are free from entangling relations with the state schools. In this respect the Indiana board is absolutely unique. No other state in the union, it is believed, has seen fit thus to turn the organization of its state board of education over to a favored few of its educational institutions. No adequate reason has been offered why such prestige should be granted by law to three particular schools in Indiana.

"It is a significant fact in this connection, that the controlling majority (five out of eight) of the trustees of the state university are appointed by the state board of education—that is to say by the president of the university himself, who is by law made a member of the state board. This practically provides, through its membership in the state board, for the very anomalous arrangement of making the state university self-constituting and self-controlling.

"Place the issuing of life licenses for all county and town superintendents under the discretionary power of the present board, as is contemplated in the Geeting bill, and it certainly is not unreasonable to fear that a temptation may, in the future, overtake the managers of the state schools to use their official connection with the board to promote the interests of their own institutions, and that, too, under conditions which would make their surrender to it a most formidable menace to the patronage of the non-state schools.

"It must be remembered that increasing attendance of students is important to the state schools as a source of influence by which to secure aid from the legislature. Hence, the temptation to secure the influence of superintendents for the increase of their patronage.

"To pass this bill and allow the membership of the state board to remain as now, is to place, by act of legislature, a powerful whip in the hands of the board with which to bring students into the state schools who, except for the official influences brought to bear upon them by superintendents and principals, would enter the non-state colleges.

"It is already well known that in many parts of the state school officials who are allies to the State University or the State Normal School boldly advise prospective college students, who look forward to teaching as a means of livelihood, that if they expect to secure desirable positions it will be best for them to attend some one of the state institutions. That this tendency toward the organization of an additional trust among public school authorities in the interest of the State Normal, Purdue, and the State University, is liable to be greatly accelerated under the present organization of the board in case the provisions of the Geeting bill for licensing county and town superintendents becomes law does not admit of reasonable doubt.

"Suppose it were proposed to require by legal enactment that all the practicing pharmacists in Indiana must obtain licenses at the hands of the Purdue School of Pharmacy, might not the non state medical colleges which maintain department of pharmacy be reasonably expected to resist the measure? Would it be prudent and equitable legislation to enact a law making the eligibility of lawyers (no matter where or how well educated to service as judges in Indiana courts of justice dependent upon certificates of efficiency obtained only at the discretion of the law school of Indiana University? Is there in the nature of the case greater reason why the eligibility of non-state college graduates to positions as superintendents or principals of public schools, should be contingent upon the approval of a board constituted of the two State Universities and the State Normal School?

"It is to be assumed that the law school and the medical college of Indianapolis desire to see the standards of qualification for the practice of pharmacy and law elevated, but is it likely they would willingly subject their graduates to the censorship of a state commission organized in the interests of the State School of Pharmacy at Lafayette and the State School of Law at Bloomington?

"To the general features of the Geeting Bill the non-state colleges have offered no opposition. Our contention from the first has been that in order to provide against the abuse of the greatly enlarged powers which it proposed to vest in the state

board of education, the state board should be divorced from any official connection with the state institutions before the bill becomes a law. With such a reorganization of the board guaranteed to them the non-state colleges have pledged their hearty support to the Geeting bill, leaving wholly untouched the question as to whether all the provisions are wise or not. Any argument to show that the non-state colleges are willing to defeat the bill rather than have the board remain unchanged, goes quite as clearly, to say the least, to prove that the friends of the bill are ready to see it defeated rather than to surrender the prerogatives which it guarantees to the State University, Purdue and the State Normal."

SUMMARY.

This measure was framed by a committee consisting of members appointed by the State Teachers' Association, the County Superintendents' Association, the City Superintendents' Meeting and two state senators. The bill as printed here and introduced into the senate, is substantially what was recommended by all these different factors. In the house the following changes were proposed:

First, in Section 1 the word "six" was changed to "five," making the minimum term of school five months instead of six.

Second, in Section 1, after the word "situated," the following clause was inserted:

Provided, that no township trustee shall establish such high school, or purchase grounds or erect buildings for such high school purposes, except upon petition of a majority of the legal voters of his township, the majority to be determined by the vote cast at the last general election.

Third, In Section 2, after the words "life or professional license to teach in the public schools of this state," the following was inserted:

Granted upon examination by State Board of Education, or a thirty-six months license to teach in the schools of the state.

Fourth, The last sentence of Section 3 was omitted.

Fifth, In Section 5 after "moneys contemplated in this act," insert:

Provided, "That no person shall be eligible to such position who does not at the time of his appointment hold a county superintendent's certificate, or a life professional license granted upon examination by the State Board of Education."

Sixth, Section 8 was changed so that the salaries ranged from \$900 to \$1,500 instead of from \$1,000 to \$1,500.

Seventh, In Section 9 the term for which a city superintendent may be employed was changed from four years to one; the date 1901 was changed to 1898; and the last two sentences were omitted.

Eighth, Section 10 read as follows:

That, in order to encourage teachers' institutes, the county auditors of the several counties of the

state shall, whenever the county superintendent of such county shall file with said auditor his statement, showing that there has been held, for five days, a teachers' institute in said county, with an average attendance of twenty-five teachers, or of persons preparing to become such, draw a warrant on the county treasurer, in favor of said county superintendent, for \$35; and in case there should be an average attendance of forty teachers, or persons preparing to become such, then the said county auditor shall draw a warrant on such treasurer for \$50 for the purposes of defraying the expenses of said institute. It shall be the duty of every teacher employed in the public schools of the state to pay a fee of fifty cents, to be applied to the county institute fund, to be used in defraying the expenses of that institute; but no more than one fee in the same county shall be exacted or required from any one person in any one school year. The fees paid by the teachers to the county superintendent and that appropriated from the county treasury shall be used by him to secure institute instructors for such institute. (Here the clause relating to qualifications of institute instructors was cut out.)

The county superintendent shall have full power over and control of all the rules, regulations, courses of study, time of holding, and regulation of attendance of the county institutes. Any arrangements for institutes, or contracts for the employment of institute instructors in violation of this section shall be void. Only one of such payments to be made by a county shall be made in the same year. The several county superintendents are hereby required, as a part of their duty, to hold or cause to be held such teachers' institutes at least once in each year in their respective counties in such a manner at such times and under such rules and regulations as they may direct.

Ninth, The following section was added to the bill as section 13: That section 1 of an act approved February 25, 1875, be amended to read as follows:

Section 1. The governor of the state, the state superintendent of public instruction, the superintendents of public schools of the three largest cities in the state (the size of the cities for this purpose to be determined by the enumeration of of children for school purposes, annually reported by county superintendents to the state superintendent of public instruction), and three persons appointed by the governor of the state, one of whom shall be a county superintendent of common schools, one a town superintendent of common schools, and one a person of experience and educational and business ability not connected with any institution of learning, shall constitute a board to be denominated, The Indiana State Board of Education. The persons so appointed by the governor as members of said board shall each serve for a term of three years; and any person so appointed a member of said board who shall thereafter become connected with any institution of learning, shall at once become disqualified to act as a member of said State Board of Education, and the vacancy so occasioned shall at once be filled by the appointment by the governor of a successor of such disqualified member. The governor shall on the happening of a vacancy in the membership of the board shall fill

such vacancy. Not more than two of said appointive members shall be of the same political party. The superintendent of public instruction shall, *ex-officio*, be president of the board, and in his absence the members present shall elect a president *pro tempore*. The board shall elect one of its members secretary and treasurer, who shall have custody of its records, papers and effects, and shall keep minutes of its proceedings: Provided that such records, papers, effects, and minutes shall be kept at the office of the state superintendent, and shall be open for his inspection. That said board shall meet upon the call of the president or a majority of its members, at such place in the state as may be designated in the call; and shall devise, adopt, and procure a seal on the face of which shall be the words, "Indiana State Board of Education," and such other device or motto as the board may direct: an impression and written description of which shall be recorded on the minutes of the Board and filed in the office of secretary of state; which seal shall be used for the authentication of the acts of the board and the important acts of the superintendent of public instruction.

A mere reading of the two measures proposed in the senate and in the house will show at once why those who were in favor of the senate bill used their influence to defeat the measure of the house. There are so many questions in connection with this measure that it is impossible for us to even touch upon any considerable number of them. It seems to us that the fundamental principle of education and the ground of the school have been left out of the discussion entirely. The one question which should be supreme is, How shall the public school system be so improved that it shall accomplish the greatest good to the greatest number in the state? Have all persons concerned in this discussion been asking this question? Has the personal element been eliminated? Has the sectarian element been prominent? Has the one element in its charge of unfair legislation been mindful of this charge in the legislation that it suggests? Is not every provision in the measure of the house, which ignores the state license held by graduates of the State Normal School, direct discrimination against one of the state's institutions? Is it fair to the state to exclude from its Board of Education the leading educators of the state? These and many questions might be asked, and THE EDITOR hopes that every teacher in the state will study carefully all sides of this question. The truth is what is wanted, and our sole purpose in placing this matter before our readers has been with the truth in view. There are certainly great principles at the bottom of our educational system, which every student must admit, and with these as a point of departure, surely the proper course to pursue will become evident. The fact remains, however, that some much-needed legislation in Indiana failed. But after all the people are the

state, and any progress for which the people are ready may be carried out and receive the formal stamp of the state's approval later.

STATE DEPARTMENT.

[Many of the letters written from the Department of Public Instruction in answer to questions relative to school matters in different parts of the state are of general interest. We feel that the teachers should be in close touch with this department and we have arranged to have transcripts made of all important letters written and circulars issued and shall present them to our readers each month, under the head, "State Department."—Eps.]

Dog Fund We have before us, this morning, your letter of March 20th, in which you make inquiry about the surplus dog fund, as per section 4487 of the school law. You will find the decision of the Supreme Court touching the disposition of this fund given in 142 Ind., page 668, which overrules a former decision on the same subject, known as the *City of South Bend vs. Jaquith, Trustee*. The Court, in the above entitled case, uses the following language:

"The custody of this fund is in the hands of the township trustee; but he must account to each school town and school city within his township for their proportional share of the fund. In case a city or town should be situated, in part, in two or more townships, the distribution must be made in like manner by the trustee of each township, in proportion to the school children of each corporation living in each of such townships. Any other interpretation of the statute would not only be inequitable, but also in violation of the letter and spirit of the constitution."

It is the duty, then, of the township trustee, to distribute to each school corporation within his township, including his own, their *pro rata* share of the surplus dog tax fund in his hands in proportion to the school population in each. The School Board of your town should make a demand on the township trustee for this distribution, and when paid over by him, should issue a receipt for the amount received, which shall be the trustee's evidence before the county commissioners for the disposition of this part of the fund.

Yours very truly, D. M. GEETING.

"The Child-Study Monthly," heretofore issued by the Werner School Book Company, is now issued by Baker & Barrett, at 395 Dearborn street, Chicago. The editorial work is still in charge of Dr. W. O. Krohn, of the University of Illinois, and Professor Alfred Bayliss, of the Streator (Ill.) High School. "The Child-Study Monthly" has a prosperous look and is full each month of interesting material.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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REMITTANCES.—Remittances should be made by registered letter, Express or Post Office money order, or bank draft, payable to THE INLAND PUBLISHING COMPANY. In remitting for subscription it will be of great assistance to us if the name of the agent taking the subscription is stated. The date on your label indicates the last number for which payment has been made. Change in this date may be accepted as acknowledgment of payment. The journal is sent until discontinuance is requested. Always send remittances for subscriptions past due to us and not to the agent.

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Our subscribers have promptly responded to our call for certain back numbers which were out of print, and we are now able to fill subscriptions to THE EDUCATOR from the first number, August, '95, with the exception of January, 1897. We need a few copies of this issue and to any of our subscribers who may furnish us with a copy, we will give an extension of one month's subscription. Our former offer for September, 1895 and for May, September and October, 1896, is now withdrawn.

We have pleasure in announcing that Mr. Isaac Craft, our vice-president, who has for some time been one of the managers of the book department of the Havens & Geddes Co. of this city, has taken a place in our office. Mr. Craft will have charge of certain matters relative to our book publications.

* * *

Advertisements. The publishers of THE EDUCATOR regret to say that they have, inadvertently, allowed some fraudulent advertising to appear in their columns. The mistake was detected just as the last issue was on the press, but too late to make any change for that number. The advertisements referred to were those of St. Louis parties, headed by such attractive titles as "Marry this girl quick," "Make your own wind-mill," "Silver hook spoon free," etc. The publishers were in the wrong in not investigating this matter more fully before accepting the advertisement. The matter looked all right on its face, and we had noticed that another reputable journal or two carried the same advertisements, and without conferring with the very estimable references given by the agency sending them, we accepted them. We can only hope that very few, if any, of our readers were defrauded by their publication. We have now adopted the following rule: We vouch for the integrity of all the advertising matter which appears in our columns. If it should appear that any of them fraudulently secures money from our subscribers, we will be responsible for the same.

The advertisements in a paper, and especially in a paper which costs as much each month to issue as THE INLAND EDUCATOR, are a necessity. Without them the paper could not be conducted. But they are of other value than merely making money. These firms present to our readers, each month, articles of value to them in their profession. Our advertising pages form a reliable directory of publishers and articles of practical interest to school people.

* * *

Pacific Coast Excursion Superintendent Charles F. Patterson of Edinburg, Indiana, will conduct an excursion party to the Pacific Coast, this coming July. Party will travel in special train, having stops at Colorado Springs, Glenwood Springs, Salt Lake City, Ogden. Ample time will be given in San Francisco to attend the Christian Endeavor exercises, and have opportunity to take advantage of the numerous side trips which he

On the return to Port

Seattle and Salmon fisheries, other points of interest in this wonderful country, thence to Livingston and the Yellowstone Park, where five and one-half days will be spent in this wonderland. Thence the party will proceed to St. Paul and Chicago.

Everything will be first-class in every particular. Good party rates have been secured at the leading hotels for the entire round trip.

Any friend of THE INLAND EDUCATOR is welcome to join this itinerary. Ladies without escort will be free from responsibility for baggage. Write to THE EDUCATOR or to Superintendent Patterson for particulars.

The General Assembly of Indiana.

The late General Assembly will be remembered for what it did not do, no less than for what it did. It had a majority of representative men who are in favor of building up, instead of tearing down the substantial institutions of the state. It is significant that every single piece of really vicious legislation failed. Of course there were partisan measures; we say "of course," and yet we regret that such a state of affairs is possible. No party can afford to pass partisan laws. It isn't good politics. Officers are elected to serve all the people, and the party that fails must meet the condemnation of the people. While the legislature passed no laws unfavorable to our schools, many educators over the state believe that some positive legislation was needed along certain lines. Among the measures passed bearing upon education directly and indirectly were an act classifying criminals, and providing for indeterminate sentences; a compulsory education law; a factory law prohibiting the employment of children under fourteen, and a law forbidding the sale of cigarettes to minors. Every good citizen will recognize these measures as in keeping with the best things for which he hopes, and will stamp them with his approval.

The Governor and His Appointments.

When the party in power had legislated everything into its own hands, it was at least refreshing to know that the Governor, in appointing his boards of control for the institutions, made merit the basis of his choice. Educators over the state who know anything about the institutions for the education of the deaf and the blind, will be glad to know that the excellent management of these schools has been recognized and approved by the appointment of the old boards. This means that Superintendents Johnson and Glascock will be retained, and this is as it should be.

The Reformatory at Jeffersonville

The law classifying criminals, and providing for indeterminate sentences, makes the Prison South a Reformatory. This puts Indiana in the front rank of prison reform. Since Mr. Hert has been warden of this prison great things have been accomplished in this direction. He had already thrown the inmates into three classes, and had made their clothing, food and privileges depend upon conduct. Now, this prison will receive no murderers or hardened criminals, and the whole idea is to be that of redeeming these men and making good citizens of them. Next to having prevented the crime, this is surely the best thing to do.

Compulsory Education Law.

Indiana now has a compulsory education law on her statutes. So far as we see, it is neither better nor worse than the laws that a score or more other states have. While the law does not fill our ideas of what a compulsory law should be, we shall be anxious to have it fully tested.

In our opinion, school legislation began at the wrong end. This is the last provision needed instead of the first. There are so many things the schools and the teachers need before the children ought to be compelled to attend at all. There are so many things that can be done—for which the people are ready, and toward which the legislature could have contributed largely—things that would make it possible to increase the attendance, largely, by having the children *come* to school. The times are crying for better officers, better superintendents, better teachers, better school-houses located better and with better sanitary conditions and longer terms. Our schools may be in the hands of officers wholly unqualified for the responsible positions; our superintendents need have no qualifications; our teachers are laws unto themselves, with no large incentives to strive for higher rank; our school-houses are located upon the bleakest, most barren wind-swept, sun-scorched hills in the district; our length of term is left to political caprice. These were the things that claimed the attention of our law-makers, and they ignored all these conditions, and said the child must go to school. No matter what the physical conditions of the school-house; no matter what the teacher is; no matter what the qualifications of those who make the courses of study and supervise. True, the law does say "that children physically or mentally incapacitated for the work of the common schools are exempt" from its provisions. But we need provisions that will insure the healthy physical and spiritual growth of those

who are not incapacitated when they start to school. The law limits the period of attendance to twelve consecutive weeks. It should make the conditions the best possible, and then require attendance every day during the entire session. The law provides for the appointment of truant officers, not to exceed five in any county, to be assigned to duty by districts composed of townships. These are to be appointed by the County Superintendent, the City Superintendent, the Secretary of the State Board of Charities, and one of the members of the State Board of Education.

The following points cover, in the main, the remaining provisions of the bill: For cities or incorporated towns one or more truant officers shall be appointed by the superintendent of schools, the secretary of the State Board of Charities, and one member of the State Board of Education. The truant officers are to receive from the county treasury \$2 for each day of actual service. The term of office is one year. If any parent, guardian or custodian of any child is too poor to furnish the child with the necessary books and clothing with which to attend school, the school trustees shall furnish temporary aid for such purposes, which aid is to be allowed by the county commissioners. School officers are empowered to maintain a "Parental Home" for incorrigible and truant children, and any child not over twelve years of age who shall be truant or incorrigible may, with the common consent of the school officers and person having charge of such child, be compelled to attend this home. Upon the refusal of consent by the person having charge of the child, the school officer may file complaint in the court of the county and the court may order the compulsory attendance of the incorrigible or truant in the Parental Home for a period of not longer than 120 days. For the purpose of defraying the increased expenditure necessary for carrying out the provisions of this act, school officers are empowered to levy in addition to any and all sums heretofore provided by law any amount of special school revenue not exceeding ten cents on the hundred dollars of taxable property. Any child living more than two miles from the nearest public school is not subject to the provisions of the measure.

* * *

The Schools and the Colleges During the recent meeting of superintendents at Indianapolis, the discussion at the Round Table, which considered college entrance requirements, showed an attitude that is decidedly favorable toward the schools. The subject is not a new one, but in former discussions of it the colleges have shown little inclination to make concessions, while the high schools have

struggled to bring their courses up to college requirements. The promised advantage is not to come now in the way of a lowered standard, but in a wider range that will allow more freedom in election. Latin and Greek still have their earnest champions, but there is an increasing number of those who believe that there are other paths to culture and to high attainment.

President Eliot of Harvard was the great pioneer in this widening of options, and it is interesting to observe how the other colleges are following his lead. "All things to all men" seems to be the text.

The most positive departure is that made by President Schurman of Cornell, who announces his purpose of abolishing all degrees except that of A. B. His reason may be best expressed in his own words:

The two principles which influenced Cornell to take this action were, first, the adaptation of studies to the needs of students, and secondly, the recognition of the natural sciences, and of modern languages and literature, and other liberal arts on equal terms with the ancient classical languages as fitted to yield discipline, culture, and education to the minds of students.

* * *

The New Administration Our last issue went to press too early to notice the important features belonging to the administration that began on the fourth day of March last, but we trust it will not be out of order to review them briefly here. The inaugural address declared the president's purpose to favor—the appointment of a currency commission that shall make a careful and exhaustive examination of the entire subject; greater economy and a check upon extravagance wherever found; no more loans to pay the ordinary running expenses of the government; increased revenue by a revision of the tariff laws, rather than by an increase of internal taxation; extension of reciprocity principles; extension of the civil service; maintaining our currency at a par with gold; the establishment of a merchant marine for our carrying trade with foreign countries; a foreign policy sufficiently firm to insist upon the rights of American citizens everywhere, and adherence to the principle of arbitration both as a wise policy and a duty to mankind.

A special session of congress that was called convened on the fifteenth of March. Its principal business is to revise the tariff.

The new cabinet consists of John Sherman of Ohio, Secretary of State; Lyman J. Gage of Illinois, Secretary of the Treasury; Russell A. Alger of Michigan, Secretary of War; John D. Long of Massachusetts, Secretary of the Navy; Cornelius N. Bliss of New York, Secretary of the Interior; Joseph McKenna of California, Attorney General;

James A. Gary of Maryland, Postmaster General, and James Wilson of Iowa, Secretary of Agriculture. These appointments were promptly confirmed by the Senate, and Mr. McKinley is believed to have chosen a fairly strong cabinet.

* * *

Crete. A long, narrow island south of Greece, measuring 150 miles in length and thirty-six in its greatest breadth, fringed along the coast by a belt of fertile soil that bears a luxuriant vegetation all the year, rugged and mountainous in the interior, rich in classic myth and legend, sad in the desolation of its ruined cities, and containing to-day a population of about three hundred thousand brave Cretans, proud of their valor and their heroic struggles for freedom—such, in brief, is the description of the little tract of land where the interest of all Europe has centered during the past few weeks. Nearly four-fifths of the Cretans are Greek Catholics, the rest being Mohammedans, and for generations the deepest hatred has existed between these two creeds. The small number of Mohammedans have doubtless had encouragement, if not actual aid, from the Sultan of Turkey who rules the island, and this only intensified the bitterness, and aroused Greece to interference when the misgovernment of the Sultan became utterly intolerable.

The civilized world applauded when some one was found with sufficient spirit to arouse Europe from the Turco-paralysis which has held it, and to open negotiations with the "sick man" at the cannon's mouth. The Cretans hailed with delight the promised aid, and they would willingly have united themselves to Greece, but the Powers said no! and the ray of hope that had gleamed for a moment faded away. Still, the Greeks are plucky, and King George has shown himself not only brave in spirit, but a master of diplomacy as well. It seems vain to hope that the agreement of the Powers can be broken, but there is strength in moral convictions of right and justice, and there must be a point where the endurance of the great masses, whose sympathies are clearly with the Cretans and the Greeks, would cease. Meanwhile, Greece is gaining time by asking the Powers to let Crete choose how she shall be governed.

The Indianapolis Business University, under the management of President Heeb, is offering good facilities to teachers for normal work during the spring. Professor Eli F. Brown, formerly a member of the State Normal School faculty, and a well known author of successful text-books, is giving his entire time to the normal department. Teachers may be sure that their wants will receive attention in this special term.

EDUCATIONAL INFORMATION.

We note that Mr. Charles H. Beeson of the department of Latin in the Chicago University, has been called to fill, temporarily, the place of instructor in Latin in the University of Indiana.

The second annual meeting of the International Kindergarten Union will be held in St. Louis, in the Auditorium of the New High School, Tuesday, Wednesday and Thursday, April 20th, 21st and 22nd, 1897.

Professor Denton J. Snider, who is well-known through his extensive commentaries on the "Literary Bibles," announces a new book on "The Father of History: A Commentary on Herodotus." The book is to be published in the fall of 1897.

Mary J. Anderson, who has just completed her course of study in Michigan University, takes up her work in the State Normal School again this spring as assistant professor of grammar and composition. Miss Anderson has been at Michigan University three years on leave of absence.

The fourth annual meeting of the Western Drawing Teachers' Association will be held at St. Louis, in the auditorium of the new High School, Wednesday, Thursday and Friday, April 21, 22 and 23, 1897. This meeting promises to be one of the most important educational conferences of the year.

Evansville has a new high school building, due largely to the energy of Superintendent W. A. Hester. This new building was dedicated recently with appropriate exercises. There were local speakers, a history of the high school by Miss Chick, and an address by State Superintendent Geeting. The building is a three-story one with basement, and is modern in every way.

Hugh Brown, formerly representative for Allyn & Bacon, and now the director of the Home Study Association, of Ann Arbor, Michigan, has invented a desk calendar that has unusual merit. It is arranged for the making of memoranda in such a way that the notes for a certain day appear before the user a day in advance. The inventor expects to put his work on the market next year.

The new journal of School Geography, edited by Professor Richard E. Dodge of the Teachers' College, New York City, has reached its third number. It contains some very valuable material for teachers and deserves a wide circulation. Professor Davis of Harvard has an article on "The Use of Geographical Periodicals." Another valuable article is on "Lakes; A Study for Teachers" by Professor Brigham of Colgate University.

The Central Illinois Teachers' Association met at Galesburg March 26 and 27. One of the most important subjects discussed was "Training for Citizenship," leaders in the discussion being Professor Charles A. McMurray and Professor Edmund J. James, both of Chicago University. In these papers the view was presented that the study of society must be carried down from the university through the college, secondary school, and into the elementary school, just as the study of natural science, under the name of nature study, has been extended through this course.

Paul Monroe, well known in Indiana as a former principal of the Martinsville High School and who has been a Fellow in Sociology at Chicago University the last two years, has recently been appointed to a fine position in the Teachers' College in New York City. We are not in as to the exact work Professor Monroe is to

but it is, of course, something in connection with his specialty, sociology. While at Chicago University, Professor Monroe has contributed a number of valuable studies to the American Journal of Sociology, which is published by the University.

W. E. Henry, professor of English literature in Franklin College, was recently elected state librarian by the State Board of Education. Professor Henry has, for a number of years, been identified with the educational interests of the state. He is a graduate of the State Normal School and of Indiana University, and has taken advanced work in Chicago University. The position of state librarian is one of considerable importance, and the teachers of the state will be glad to know that it is to be filled by an educator. While Professor Henry takes charge of the office the first of April, we understand that arrangements are made by which he will complete his year's work at Franklin.

The annual congress of the Illinois Child-Study Society will be held in Chicago, April 27, 28, 29, 30 and May 1. The regular congress commences the evening of the 28th, a conference of special child-study workers being held the 27th and 28th. The meetings will be held at the University of Chicago, the Chicago Normal school, and in halls in the heart of the city. The departments of the congress are the Mothers' Department, the Sunday-School and Child-Study, the Relation of the Kindergarten to Child-Study, Art and Childhood. The congress will in reality be a national one, bringing together the most eminent child-study students of the country. Send to the secretary, C. C. Van Liew, Normal, Illinois, for program.

Readers of THE EDUCATOR have had their attention called prominently to the fact that Ex-Superintendent of Public Instruction, Hervey D. Vories, has become the head of what has been formerly known as The Spencerian Business College of Indianapolis. Professor Vories has incorporated his institution under the name of Vories's National Business University. He has recently added to his faculty Mr. L. O. Dale, formerly County Superintendent of Wabash county, Indiana, and for the last few years of Hinsdale, Illinois, and Professor J. S. Hall, of the American Medical College. Professor Vories has also arranged for giving five scholarships, ranging from life scholarship, to a three month's scholarship, to persons writing the best five essays on the subject of "Practical Education."

State Superintendent Geeting, during his first two years of office, visited every county in the state, and some of them two, three and four times. He has certainly made a remarkable record, and no one will doubt for a moment that his visits have accomplished great good. Besides visiting the county institutes of all the counties, he has attended many meetings of the associations of the counties, visited schools in many counties, and lectured before teachers' meetings and commencements in many places. Commencements and superintendents' clubs, county associations, public meetings, Arbor days, high school dedications all over the state have claimed his attention and received it. Mr. Geeting has shown himself, as usual, an indefatigable worker on all occasions. He has been in close touch with every educational movement in the state. He has done a great deal towards seeing that every district in the state has the educational advantages which belong to it.

THE EDUCATOR did not receive any program of the Southern Indiana Teachers Association to be held at Franklin in time to make any mention of it last month. This number will reach our subscribers about the time the meeting is in session, April 8, 9 and 10th. The program indicates a very interesting meeting. Professor C. H. Hall of Franklin College is to give the address of welcome. Professor A. E. Humke is the retiring president, and County Superintendent W. H. Senour of Franklin county is the new president. On Friday Professor Arnold Tompkins, of Illinois University, will lecture on "The Beautiful as a Basis for Literary Study," and "Reading and Literature." Professor John A. Bergstrom of Indiana University will speak on "School Hygiene" and on "Child-Study." On Saturday, Professor Wilbur S. Jackman, Chicago Normal School, will talk on the "Relation of Nature Study to the Child's Consciousness" and on "Method of Teaching Nature-Study Illustrated by Pupils' Work in Painting." In the Music section Miss Belle H. London of Jeffersonville, H. E. Owen of Terre Haute, and Professor Beatrice O. Sanders of the State Normal School, Terre Haute, will lead in the discussions. The committee has secured a rate of one fare for the round trip. Professor Will Featheringill of Franklin is at the head of the executive committee.

We call the attention of our readers again to the announcement of summer schools in our advertising columns. Owing to the high standing required of applicants for teacher's licenses, arrangements are going forward in very many of the counties in Indiana and other states for teachers' normals or review terms, in which a rapid review of the various subjects on which applicants are examined is made. A number of these schools have come to our attention and we give the list herewith, with the names of the principal teacher or teachers as far as known:

Washington, Indiana, William F. Axtell.

Odon, Indiana, the Odon School Board.

Wabash, Indiana, Superintendent John N. Myers, Professor Noble Harter, Henry Hippensteel and Mrs. Nora S. Kerr. Mrs. Kerr will have primary method and training school for the first four years. The school will begin about the middle of June.

Paoli, Indiana, March 29, H. F. Collier.

Orleans, Indiana, April 5, R. A. Troth.

Sullivan, Indiana, Superintendent W. C. McCollough, assisted by Messrs. A. G. McNabb and A. C. Payne.

Hymers, Indiana, J. L. Birlingmier.

Connersville, Indiana, May 31, Superintendent W. F. L. Sanders, Professor W. R. Houghton and County Superintendent W. H. Glidewell.

Richmond, Indiana, Earlham College Summer School.

Lebanon, Indiana, May 3, R. D. Carney, Charles Peterson and Frank Laughner.

Whiteland, Indiana, W. D. Trout.

Trafalgar, Indiana, J. U. Jones.

Smith's Valley, Indiana, F. G. Haecker.

Franklin, Indiana, Franklin College Summer School.

Spencer, Indiana, County Superintendent C. F. McIntosh, J. A. McKelvey and D. V. McCarver.

Battle Ground, Indiana, April 5, F. S. Cowger.

Patrickburg, Indiana, April 5, L. B. Dyar.
 Berne, Indiana, J. A. Anderson.
 Clay City, Indiana, April 5, J. M. Tilley and
 and County Superintendent W. H. Chillson.
 Holland, Indiana, E. H. Kunz.
 Booneville, Indiana, May 24, C. E. Clark.
 South Bend, Indiana, The Peoples' College,
 William T. Boone, president.
 Versailles, Indiana, April 19, W. D. Robinson
 and C. B. Wilson.
 Fowler, Indiana, County Superintendent C. H.
 West and Frank Carroon.
 English, Indiana, April 19, County Superinten-
 dent J. R. Duffin and ——— Robertson.
 Corydon, Indiana, R. A. Brown.
 Noblesville, Indiana, Superintendent J. F.
 Haines. (This term does not seem to be
 definitely settled upon.)
 Bristow, Indiana, Miss Mattie Fullenwider.
 Tobinsport, Indiana, Abel Powell.
 Fortville, Indiana, J. W. Jay.
 In Putnam county summer schools will be taught
 at Cloverdale, Belle Union, Clinton Falls, Green-
 castle and Bainbridge.

The death of Ben Grable of Corydon, Indiana, occurred in March. Mr. Grable was a teacher in Harrison county. He had been for some time a student in the State Normal, but taught at his home during the winter. Ben Grable was an earnest, honest, sincere young man who saw what a life should do and be, and who was equipping himself that he might accomplish the greatest good possible in life. We believe that he did the best that he could always, and that the world is better for his life. He was the kind of a young man that the profession can ill afford to lose.

John C. Prather of Wheatland, Indiana, died in Terre Haute March 8th. He was a member of the senior class of the State Normal School. He had been a teacher in the public schools of Knox county for five years, and was considered one of the best teachers of the county. Mr. Prather was a young man of great worth. His integrity was recognized by every one with whom he came in contact. He was a good student, and his excellent influence in the profession and in all the circles in which he moved will be missed. He lived a simple, natural, moral life and left his impress where he strove.

BOOK REVIEWS.

GLACIERS OF NORTH AMERICA. By Israel C. Russell.
 Boston: Ginn & Co., pp. 210, 22 Plates. Price. \$1.60.

Professor Russell has again placed teachers and students under obligations for a second reading lesson in geography and geology—a companion volume to his "Lakes of North America." It is only recently that we have been able to realize that this country presents, not only the richest field in the world for the study of ancient ice sheets, but also for the study of living glaciers. The book opens with a chapter upon the general characteristics of glaciers. Those of the Sierra Nevada and Cascade mountains are then described. The glaciers of Alaska furnish material for the longest chapter in the book—material which surpasses in interest that of any other region in the

world. The almost equally rich, but less accessible field of Greenland, is more briefly treated. Chapter IX contains the fullest discussion of the nature and causes of glacial flow with which we are acquainted. The book closes with an ideal life history of a glacier. The author speaks, throughout, from a fulness and reality of knowledge born of personal experience, and nothing is more encouraging than the fact that such men are writing reading lessons which students of all grades can understand. The want of good and accessible literature is no longer a valid excuse for ignorance of geography. C. R. D.

ELEMENTARY GEOLOGY. By Ralph S. Tarr. New York: The Macmillan Co., pp. 499. Price, \$1.40.

THE EARTH AND ITS STORY. By Angelo Heilfrin. Boston: Silver, Burdett & Co., pp. 267 and 64 plates. Price, \$1.20.

These two books are exponents of what may be called "the new geology," the twin sister of "the new geography." As text-books of geology they are characterized by the relatively small space given to the stratigraphic and historical aspects of the subject, which in the former is one-fifth, and in the latter only one-eighth of the whole. The term geologist used to mean primarily one who collects, studies and classifies fossils; but it is rapidly coming to mean a physical geologist, or one who studies the forces and processes by which the earth has been shaped, while the study of fossils is being turned over to the specialists in botany and zoology to whom it belongs. At the same time, the scientific geographer realizes that he can not understand the relations of land forms unless he, too, studies the forces and processes by which they have come into existence. So the two have come to work together, side by side, in a field which is practically the same for both. They are mutually indispensable to each other. The geologist finds in the present geography of the earth the only key to its past history, and the geographer finds in its past history the only key to its present condition. The admission might as well be frankly made that both must start from the same goal, however much their paths may afterwards diverge. Abandonment of the effort to maintain an artificial distinction where none exists in nature will be a great relief to authors, and result in substantial gain to students. Professor Tarr calls his book an "Elementary Geology," but wherein one-half of it differs from one-half of his "Elementary Physical Geography" it would puzzle him or anybody else to explain. The other halves of the two books, respectively, differ in their subject-matter. Which of the two books ought to be studied first is largely a theoretical question of very little practical importance. The two together form an admirable exposition of elementary Earth-Science.

The geography presents the same attractive features of large, well-spaced type, good paper, and numerous illustrations, chiefly photographic reductions, which characterize the author's "Physical Geography." The story is told in clear and simple language which shows a marked improvement upon the style of the geography, as likewise does the logical arrangement of the matter. There is an occasional failure to state the essential point of the topic, as on page 256, where Murray's theory of coral islands is given just far enough to leave the reader wholly in the dark as to how he

accounts for the phenomena. We see no reason why even an elementary text-book should discuss a subject, at all, unless the essential points of it are stated. It is better to omit a subject than to leave it hazy and indefinite. We are unable to understand the implication on page 324 that reversed faults are accompanied by *stretching* of the earth crust. If they are not analogous to horizontal overthrusts due to *compression* and shortening of the crust, it is impossible to explain them. The statement on page 293 that "in a normal fault a vertical shaft will pierce the same layer twice, in the reverse but once," is certainly a puzzle and possibly a misprint.

The 500 pages of text contain 268 figures nearly all of which are photographs of actual scenes and objects, and twenty-five full page plates. This wealth of illustration, and the weight of the paper, make the book too heavy to hold comfortably in the hand; but the student is well repaid for his extra muscular exertion.

The title of Professor Heilfrin's book is unfortunate on account of the fact that there are at least half a dozen other recent books of similar title, yet it is peculiarly appropriate. It is the narrative quality of the text which makes it a real story and gives it a peculiar, personal charm. It is as if the author were taking the reader to see the thing described, and illuminating it with the light of his wide and intimate experience. The story is as far from being rambling or disorganized as it is from being dry and formal; and in the quality of vivid depiction has scarcely a rival except Cole's "Open-Air Studies." Neither facts, popular conceptions, theories nor text-books are treated in a gingerly manner. The time-honored "chestnuts" in regard to rock growth, mountain up-thrust, burning mountains, the internal sea of fire, the unity of continental structure, etc., are punctured and eviscerated. Nearly all the important theories are stated, yet the author expresses decided opinions of his own, which sometimes differ from the general consensus. Perhaps too much importance is given to crust breaking and falling, in the formation of ocean basins and continental elevations. We have looked, in vain, for any mention of isostasy, which is worthy of at least a paragraph. Although the book is avowedly popular, there is no hesitation about the introduction of technical terms which are growing more numerous as the science develops. They are as necessary and useful in geology as in botany. The book is illustrated by sixty-four full page plates, which, although not always satisfactory as works of photographic art, are, with few exceptions, successful as educative devices. We know of no better introduction to geologic science in its freshest aspects.

C. R. D.

WHITMAN, A STUDY. By John Burroughs, Boston: Houghton Mifflin & Co. 268 Pages. Price \$1.50.

When Canon Farrar was in the United States some ten or twelve years ago delivering his lecture on Robert Browning, there were ungenerous critics who suspected in the reverend archbishop a commercial purpose to arouse such an interest in Mr. Browning's works as would insure a great increase in their sale. A similar motive might have been imputed to Mr. John Burroughs, had his volume on Walt Whitman appeared before the poet's death, so profuse is he in his praise. Happily

however, we can see no motive now less worthy than genuine admiration; so we read the book as we heard the lecture, convinced of an honest purpose on the part of both men to help the world understand a genius.

Mr. Burroughs was no Nicodemus during Whitman's life, and now that the controversy is so sharp between the critics on the one hand who praise, and those on the other hand who denounce the Poet of Democracy, Mr. Burroughs stands as his staunchest champion.

But the present volume is not merely a eulogy. Its character is clearly suggested by the title; the study being pursued under the following heads: Biographical and Personal, His Ruling Ideas and Aims, His Self-Reliance, His Relation to Art and Literature, His Relation to Life and Morals, His Relation to Culture, His Relation to His Country and His Times, His Relation to Science, His Relation to Religion.

Considered from so many points of view, all of which are more or less inter-related, it is inevitable that there should be some repetition, and this is perhaps the chief fault of the book; and yet the repetition only serves in the end to emphasize Whitman's striking personality and the uniqueness of his work.

To Mr. Burroughs, Whitman is democratic, cosmic, original, gigantic, prophetic, unselfish, self-reliant, persistent, transparent, emotional, sublime, virile, metaphysical, elemental, out-of-doors, real rather than artistic, fond of praise yet never seeking praise, and finally, American, though "his Americanism is only the door by which he enters the universal."

If we remember Mr. Burroughs as a loving and enthusiastic student of nature, we can understand how he, better than many others, would comprehend Whitman: "His book is not a temple; it is a wood, a field, a highway: * * * vanishing lights and shades, truths half disclosed, successions of objects, hints, groups, voices, contrasts, blendings, and above all, the tonic quality of the open air." He has done what he declares others must do who would know him; that is, take Whitman as a whole or not at all. On this point he quotes Symonds who says "I have accepted Whitman entire and without reservation. I could not do otherwise. * * * He will not live in separate passages or in a few brief poems, any more than Shakespeare, or Homer or Dante or the Bible so lives." Again, he quotes Joel Chandler Harris: "Those who approach Walt Whitman's poetry from the literary side are sure to be disappointed. Whatever else it is, it is not literary. Its art is its own. * * * But those who know nature at first hand—who know man, who see in this Republic something more than a political government—will find therein the thrill and glow of poetry and the essence of melody."

Burroughs declares that growth, rather than manufacture, characterizes Whitman's work; the poet, himself, affirms "I finish no specimens. I shower them by exhaustless laws, fresh and modern continually, as nature does." He maintains that though his book may not be a good lesson, yet it lets down the bars to a good lesson, and that to another, and every one to another still.

Mr. Burroughs finds that Whitman continually eludes him, and thinks it is his composite character that makes it impossible to classify him. Scholars

and laborers, farmers and lawyers, sailors and doctors, scientists and teamsters, were all one to him. Still, the following comparison seems to express pretty well the position of Whitman as Burroughs sees him,—"Just as ripe, mellow, storied, ivy-towered, velvet-turfed England lies back of Tennyson, and is vocal through him; just as canny, covenanting, conscience-burdened, craggy, sharp-tongued Scotland lies back of Carlyle; just as thrifty, well-schooled, well-housed, prudent and moral New England lies back of her group of poets, and is voiced by them,—so America as a whole, our turbulent democracy, our self-glorification, our faith in the future, our huge mass movements, our continental spirit, our sprawling, sublime, and unkempt nature, lie back of Whitman and are implied by his work."

With all his admiration and love for the poet Mr. Burroughs admits that in passing from such a man as Tennyson to Whitman we lose something, of course, but he asks significantly whether what we lose in art and refinement we do not gain in scope and power.

Burroughs's book is the study of an enthusiastic Whitmanite, and though many critics will dissent from his estimate, yet he has done an admirable service in helping us understand and interpret the Poet of Democracy. W. W. S.

Houghton, Mifflin & Co., of Boston, deserve the thanks of all teachers for issuing a set of portraits and pictures of great literary men and their homes. There are thirty-seven pieces in the collection, all attractively printed on heavy paper and suitable for insertion in note-books or in editions of the writers' works. The house suggests a very fine plan for using these pictures to advantage in school-rooms. "In very many schools a note-book is given to each pupil, who, having contributed his one or two cents for the portrait or picture, or both, pastes them into the book. He then proceeds to write in the book such information of the author as may be given him by his teacher, and also such knowledge as he may have learned by reading. Note-books prepared in this way are a source of very great pleasure to the pupil, and tend to give him early in life such information in regard to authors as will make the acquisition of further knowledge in the same direction a pleasure to him as long as he lives." These pictures and portraits are furnished at the rate of ten for 20 cents, with additional pictures for 1 cent each. If ordered in lots of 100 or more they are sent at the rate of 1 cent each, postpaid. Included in the pictures are thirteen American authors and sixteen British authors. The homes of eight American authors make up a part of the list.

Dr. Wood-Allen has the manuscript for "Almost a Woman" nearly ready for the printer, and the publishers, The Wood-Allen Publishing Co., Ann Arbor, Mich., expect to have the book out by the first of April.

BOOKS RECEIVED.

AMERICAN BOOK COMPANY: New York, Cincinnati, Chicago.
The Story of the Romans. H. A. Guerber. Illustrated. Linen, 12mo., 288 pages. Price 60 cents.
The Story of the Chosen People. H. A. Guerber. Illustrated. Cloth, 12mo., 240 pages. Price 60 cents.
High School Class Book of Drawing. Boards, 121 pages. Price 50 cents.
Normal Class Book of Drawing. Christine Gordon Sullivan. Boards, 84 pages. Price 50 cents.

Our Little Books for Little Folks. Arranged by W. E. Crosby. Illuminated covers. Square 8vo., 106 pages. Price 30 cents.

American Vertical Writing Blanks. Nos. 1 to 3. Per dozen 90 cents.

G. P. PUTNAM'S SONS: New York.

American Orations. Vols. 2, 3, 4. Edited by Alexander Johnston. Re-edited by James Albert Woodburn. Price \$1.25 per volume.

History of the Ancient Peoples. Willis Boughton. Price \$2.00.

D. APPLETON & COMPANY: New York.

The Intellectual and Moral Development of the Child. Part I. Compayre. Price \$1.25.

CHARLES SCRIBNER'S SONS: New York.

An Illustrated Flora of the Northern United States, Canada and the British Possessions. Nathaniel Lord Britton, Ph. D., and Hon. Addison Brown. Vol. I., 612 pages. Price \$3.00.

THE SIGMA PUBLISHING COMPANY: St. Louis, Mo.

Psychology and the Psychosis—Intellect. Denton J. Snider. Cloth, 336 pages. Price \$2.00.

E. L. KELLOGG & COMPANY: New York.

How to Manage Busy Work or School Occupations. A. M. Kellogg. Illustrated. Paper. Price 25 cents.

How to Teach Botany. A. M. Kellogg. Illustrated. Paper. Price 25 cents.

The Geography Class and how to interest it. M. Ida Dean. Illustrated. Paper. Price 35 cents.

C. W. BARDEEN: Syracuse, New York.

Art Education, the True Industrial Education. William T. Harris, L.L.D. Boards. Price 50 cents.

Pictures in Language Work. E. W. Weaver. Cloth, 16mo., 110 pages. Price 50 cents.

GINN & CO: Boston.

The Forms of Discourse. Wm. B. Cairns. Cloth, 320 pages. Price \$1.25.

INDIANA STATE BOARD QUESTIONS FOR MARCH, WITH DISCUSSIONS.

SCIENTIFIC TEMPERANCE.

(Any five.)

1. Tell how a piece of muscle or brain or any animal tissue is affected by being placed in alcohol. Does the specimen thus treated weigh more or less than it did before? Why?
2. Does water undergo any chemical change in the animal body? What is the use of water in the animal body?
3. How does alcohol affect the red corpuscles of the blood?
4. How does the excessive use of alcohol affect the kidneys?
5. Will beer slake thirst? Why?
6. Are the evils ascribed to tobacco due to the nicotine?
7. Why is the smoking of cigarettes considered more dangerous than the use of tobacco in any other form?

1. It is robbed of its water. It weighs less because of the loss of the water.

2. Practically not. To keep up a liquid circulation.

3. It robs them of their water and oxygen, and shrinks them out of shape.

4. It inflames and ulcerates them, unfitting them for their function.

5. Partially. Because of large per cent. of water it contains.

6. Yes, mainly.

7. Because they are made of inferior tobacco often mixed with opium, and sometimes wrapped in arsenic bleached paper.

SCIENCE OF EDUCATION.

(Any five.)

1. The process of advancing from the inspection of particulars to an understanding of general notions or concepts, is called what?
2. What are some of the laws of the process described in question one.
3. To what extent does this process have a place in teaching?
4. How does deduction differ from induction?
5. "The value of knowledge depends not only upon its fitness and accuracy of the ideas, but also upon the closeness and extent of the relations into which it enters." Show that this is sound principle.
6. On what does good memory depend?
 1. Induction.
 2. First, observation or intuition

ciation of ideas looking toward ge

3. It is really a part of all teaching and learning. In so far as the pupil is led to draw his own conclusions from a number of particular presentations it may be said to have a place in teaching.

4. Induction is the process of the mind in arriving at conclusions or principles from the study of particulars. Deduction starts with the principle or law and recognizes particulars as manifestations of this principle.

5. Thinking is the highest form of knowing. Knowledge is only valuable as food for thought. Facts may be distinct and accurate, and still be ballast; they make one free in the degree in which he relates them.

6. Upon a healthy free observing sense-perceiving activity largely.

ARITHMETIC.

1. What is a unit? When do several things constitute a unit? Name a unit which may include several things.
2. From 9000 subtract 7685. Write complete explanation as though given to a pupil taking the work for the first time.
3. Upon what does the value of a fraction depend? Wherein does $\frac{1}{2}$ of a dollar differ from $\frac{1}{2}$ of a dime?
4. Explain the process of finding the prime factors of 84.
5. Of a certain kind of cloth, 29 in. wide, 12 yds. are required for a dress. How many yds. would be required if the cloth were 35 inches wide, provided the two kinds cut to equal advantage?
6. Find the area of a circle in sq. yds., if its diameter is 4.06 yards.
7. A man sold a horse for \$150, 30% of which was gain. What was the cost and what his gain per cent.?
8. I bought a bill of goods for \$641 on 4 months' credit, but being offered 5% off for cash, I borrowed the money at a bank by having my note payable in 117 days, discounted at 6%, and paid the bill. What was the face of the note, and how much did I gain?
9. Discuss the first year's work in arithmetic as outlined in the State Manual.
10. "Teach the form and name of sphere and hemisphere, cylinder, cone, cube, prism, square, triangle, lines, points and so on."—State Manual.
Show how number work may be introduced by doing the above work.

1. A unit is one or a single thing. When thought as one, as a group. Five different colored marbles would be one group.

2. Ten units make 1 ten; ten tens make 1 hundreds; ten hundreds make 1 thousand. 9000 equal 8 thousands, 9 hundreds, 9 tens and 10 ones. From these 7 thousands, 6 hundreds, 8 tens and 5 ones are to be taken. 5 ones from 10 ones=5 ones; 8 tens from 9 tens=1 ten; 6 hundreds from 9 hundreds=3 hundreds; 7 thousands from 8 thousands=1 thousand. 7685 from 9000=1315.

3. Upon the relation between numerator and denominator. It depends upon the number parts into which the unit is divided. It depends also upon the number of these parts taken. It depends also upon the value of the unit that is divided. If $\frac{1}{2}$ and $\frac{1}{3}$ were each taken of one dollar $\frac{1}{2}$ would be greater. $\frac{1}{2}$ of a dollar is more than $\frac{1}{3}$ of a dime. But $\frac{1}{2}$ is a larger part of the unit than $\frac{1}{3}$ is.

4. (1.) Divide 84 by any prime number greater than 1 that will exactly divide it; 84 divided by 3 gives the quotient 28. (2.) Divide this quotient in the same manner until divided by 7 gives 4. (3.) 4 divided by 2 gives 2. The factors are 3, 7, 2, 2.

8. 95 per cent. of \$864=\$820.80, net amount to be paid. A note for 120 days (117+3) that would realize \$820.80 when discounted at 6% must be drawn for $\$820.80 \div .98 = \$837.55+$. Therefore he pays at the end of 4 months \$837.55 instead of \$864, and gains \$26.45.

GRAMMAR.

(Any five.)

1. How does the sentence differ from the clause? Illustrate.
2. State how each word is used in the following: "Bring forth another horse," he cried aloud. "Another horse!"
3. Illustrate in sentences four uses of a phrase.
4. Illustrate the difference between the use of the adjective and the adverb. Explain.
5. Use the word "as" as an adverb and as a conjunction.
6. How would you present the subject of case to a class? What material would you use?

1. The sentence and the clause are alike in that each has a subject, predicate, and copula; but the clause always forms a part of the sentence; e. g., The book which was taken from the table has been returned. The entire expression is the sentence; the expression, "which was taken from the table" is the clause.

2. The expression, "bring forth," is a verb used as the principal part of the predicate of the subordinate clause. The word, "another," is an adjective used to modify the word, "horse." The word, "horse," is a noun, used as the principal part of the direct objective modifier of the attributive verb, "bring." The word, "he," is a pronoun, subject of the sentence. The word, "cried," is an attributive verb, used as the principal part of the predicate of the sentence. The word, "aloud," is an adverb, used as an adverbial modifier of the attributive verb, "cried," expressing an adverbial idea of manner. The expression, "Another horse," is repeated for the sake of emphasis.

3. The phrase may be used in the following ways:

- (1) As subject of the sentence; e. g., *To be right* is better than to be president.
- (2) As predicate of the sentence; e. g., *To forgive is to be charitable.*
- (3) As direct objective modifier; e. g., *He loves to play ball.*
- (4) As an adjective modifier; e. g., *The child on the street* was unconscious of danger.

4. An adjective always expresses an attribute of an object of thought without asserting it; e. g., *Ancient history* is interesting. An adverb always expresses an attribute of an attribute or of a relation; e. g., *The stream flows rapidly.* The story is *perhaps* true.

5. The word, "as," is used as a conjunctive adverb; e. g., *Do as you are bid.* Or it may be used as a relative pronoun; e. g., *He bought such books as were needed.*

6. Place before the class such a list of sentences as the following:

- (1) *Blue Island* is a town, situated on a bluff, which rises abruptly from a prairie. (2) The best features of *King James' translation of the Bible* are derived from *Tyndale's version.* (3) *They* scaled *Mont Blanc*—the great mountain. (4) *St. Paul*, the apostle, was beheaded in the reign of Nero. (5) *This house* was *Longfellow*, the poet's home. (6) *He*, the student, is a writer—a journalist. (7) *My* father, may be a scholar. (8) *Children*, be it true. (9) *We* spoke of *Trumpson*, the

dead poet. (10) *Blaine* died in *Washington City*, the capital of the *United States*. (11) *He* gave me the book. (12) *They* walked ten miles, a long distance. (13) *They* wished him to study law. (14) *His* being ill prevented our going. (15) The law of the Lord is perfect, rejoicing the heart.

Have the children explain the use of each italicized word in the sentences. Lead them to see that each italicized word is used in one of three relations in the sentence: Nominative relation, possessive relation, or objective relation. Give them the names and lead them to make definitions for themselves.

READING.

1. "The reading act is the act of getting meaning from written or printed language; it is an act of interpretation, of looking into and through symbols for the thought they express." 10
Discuss the above quotation.
2. Lesson 15, page 74, First Reader is as follows: 10
(1) "You can see that *John* and *Kate* seem to have fine fun.
(2) They are *running* a race to the fence.
(3) See how *Kate's* eyes *shine*! I think she is going to win.
(4) Look out, look out, *John*! or you will be *left*.
(5) If *John* does not go very fast his little *sister* will be first."

The words in italics are new to the class. Explain how you would teach these words to a class. 10

3. Name five books suitable for supplementary reading in the fifth grade, giving reasons for the selections. 10
4. Do you think the work of simplifying classic selections for use in the primary grades profitable? Why? 10
5. Give a brief analysis of the poem, *Thanatopsis*. What is the lesson taught? 10
6. Read a selection to the County Superintendent. 50

1. The quotation given is so very clear in its statement that discussion can hardly make it plainer. Language exists for the purpose of expressing thought. Written or printed language is made up of a system of arbitrary symbols which indicate to the interpreting mind the thought of the speaker or writer. Reading is then the process of passing through a symbol to the thought.

2. Most of the new words in the lesson given may be taught by their analogy to words already well known by the pupils.

3. It would be impossible to name anything like the best list, or perhaps what most people would accept as one of the best lists of five books for this grade. We select a few titles from the books which have appeared on the children's reading circle course of the state:

Science: Buckley's "Fairyland of Science."
Literature: Lamb's "Tales from Shakespeare," Dickens' "Christmas Carol."
History: Coffin's "Boys of '76," "Drumbeat of the Nation," etc.

Biography: Butterworth's "In the Boyhood of Lincoln," or Franklin's "Autobiography."

Mythology: Hawthorne's "Wonder Book."

4. The simplifying of classic selections by persons who have no greater skill than the ordinary teacher is certainly of very doubtful value. If the work is done by geniuses like Charles and Mary Lamb in their telling of the Shakespeare's Tales, or Professor Church in his retelling of the Homeric Stories, there could then be no question. As THE EDUCATOR has often asserted, the attempt to write literature down to the children generally results in making a "wishy-washy" compilation with neither sense nor interest.

5. Bryant's "Thanatopsis" is, as its name indicates, a view of death. It is the view of death

which nature presents, and with the exception of the introductory lines, the poem represents nature as speaking. These introductory lines call special attention to the fact that a lover of nature finds in her a congenial companion for all his varying moods. When thoughts of death come over the spirit, nature has her encouraging words. Nature suggests that death is inevitable and universal, that the magnificence of the sepulcher is ample compensation, and that the inspiration offered by this magnificent sepulcher, should lead one to approach the grave

Like one who wraps the drapery of his couch
About him, and lies down to pleasant dreams.

GUIZOT'S HISTORY OF CIVILIZATION.

(Any four.)

1. Summarize the points of contrast between the cities in the 12th and those of the 18th century.
2. Were the cities free or servile during the feudal regime? In what sense? How did the cities grow during the feudal era?
3. How did the cities gain enfranchisement? Results of the enfranchisement of cities:
(a) Unchanged relation to the government.
(b) Formation of a new class in society.
(c) Struggle of classes.
4. Discuss the internal government of the cities.
5. What influence put an end to the crusades?
6. How did the crusades affect the relation of the laity to Rome.
7. What was the influence of the crusades on the small fiefs? On centralization?

1. Some of the most important points of contrast were:

- a. The cities of the twelfth century were relatively weak and poor; those of the eighteenth century strong and wealthy.
- b. Those of the twelfth century possessed a local government almost entirely under local control; those of the eighteenth century were controlled in local government almost entirely by some external authority.
- c. The Burgesses of the twelfth century had little or no feeling outside of the circle of the city. Those of the eighteenth century had submerged their local feeling in that of the nation.

2. The cities during the feudal régime were free, looked at from the point of view of their own internal local government, but very servile, looked at with respect to their relation to the feudal lords from which they derived their charter, to whom they paid taxes and to whom they were under obligations in many particulars.

During the feudal era the cities grew in wealth, in commercial importance, in intellectual importance, in their power to resist the unjust and arbitrary exactions of the feudal lords, and especially became the centers of the art and learning of the Middle Ages, outside of the monasteries.

3. The cities gained enfranchisement:

- a. By securing charters from the feudal laws granting them certain privileges.
- b. By an internal development of political power and material wealth, which enabled them to resist the encroachments of feudal lords.
- c. By becoming the refuge of the oppressed who fled from both religious and feudal oppression and found homes in cities.

The new class of society which was

formed in the cities was the class of the common people, as distinguished from that of the nobility and that of the clergy.

Within the cities, as they gradually grew in wealth and importance from the tenth to the sixteenth century, there grew up a strong aristocratic class which gradually assumed management and control of the whole city life, and became the protectors of the city against the turbulence and ignorance of the large under class. This brought about a struggle between the aristocracy and the common class in cities which made it much easier for the monarch to extend his power over them and finally make them subservient to the nation.

4. The internal government of cities in early times was very democratic; that is, all the people took a part in choosing the executive, legislative, and judicial officers. But, as said above, gradually the government of the cities fell into the hands of the aristocratic class, and in many cases the cities of the Middle Ages were ruled by the most exclusive aristocracy known to history.

5. The Crusades, by broadening the thought and feeling of the laity, tended to detach them from Rome. They had the same effect which broader views and learning, in general, have upon people; namely, to make them feel more independent.

7. The influence of the Crusades on the small fiefs was to destroy them. The small fiefs were swallowed up in the vastly larger ones.

The Crusades had a great effect on increasing the centralization of power by enabling the most important lords to become possessors and sovereigns over vast extents of territory.

GEOGRAPHY.

(Any five.)

1. Why are London and Liverpool great cities?
2. What is the Japanese current, and how does it affect the climate of the Pacific coast of North America?
3. What are the trade winds? How caused?
4. What effect have the Andes mountains upon the climate of Brazil?
5. Name and locate four important sea-ports on the Pacific coast of the United States and name five of the principal exports of that region.
6. (a) To what race do the natives of British India belong and what is their religion? (b) Name and locate five of the most important cities of British India.

1. London is a great city because it is situated at the center of the land hemisphere, at the head of tide water on an estuary which opens toward Europe and the eastern continent, and is the capital of the British Empire, which includes the foremost people of the world. Liverpool is a large city because it is the seaport of the great cotton manufacturing district of England, and is so situated as to command the larger part of the British trade with America.

2. The Japan current is the northward branch of the north equatorial current of the Pacific ocean, and flows from the Philippine Islands to North America where it helps to increase the rainfall of the Pacific coast, and to render its temperature more equable.

3. The trade-winds blow towards the thermal equator from each side; from the northeast in the northern hemisphere, and from the southeast in

the southern. They are caused by the low pressure along the thermal equator, due to the constant high temperature, and are deflected westward by the rotation of the earth.

4. The Andes Mountains compel the trade-winds to rise, to cool by expansion, and to deposit a large part of their moisture on the Brazilian side.

5. Seattle, Washington, on Puget Sound; Portland, Oregon, on the Willamette River; San Francisco, California, on San Francisco Bay; San Diego, California, on San Diego Bay. Lumber, wheat, fruit, wool, salmon.

6. The natives of British India belong to a large number of races, which can be classified as Dravidian, Kolarian, Indo-Chinese, Aryan, Semitic, etc. The religion of the majority is Hindu or Brahman, but Mahometans, Buddhists, Jains, and others are numerous. The five largest cities are Calcutta, on the Ganges delta; Bombay, on the west coast; Madras, on the south-east coast; Lucknow and Benares in the north central province of Oude.

PHYSIOLOGY.

(Any five.)

1. What importance do you attach to the study of Physiology in the public schools?
2. What is the source of muscular energy?
3. Whence is the mineral matter of our bones derived?
4. Explain the function of respiration?
5. When does the heart rest?
6. What is the action of the gastric juice upon foods?
7. Why is it dangerous to swallow grape-seeds?
8. Describe the eye, and illustrate by diagram.
9. What actions are controlled by the spinal cord?

(1) The purpose of the study of physiology in the public schools is a two-fold one; to give to the student its educational value as a natural science subject, and incidentally to give him information which shall lead to an intelligent observance of hygienic laws.

(2) The source of muscular energy lies in the muscle substance itself, and not in the nerves leading to the muscles, and least of all in the brain. By a chemical disintegration of the muscle protoplasm the energy to move the muscle arises. The brain and nerves serve merely to incite the liberation of this energy.

(3) The mineral matter of our bones is derived from the ashly portions of the foods we eat, or from mineral salts in solution in our drinking water.

(4) The function of respiration is to furnish oxygen to the tissues, and to eliminate the carbon dioxide from the body. Incidentally it aids in the formation of the voice.

5. The heart rests during the diastole of the beat. As the heart beats about seventy times per minute, a single heart-beat occupies a little less than a second. Of this period, the auricle takes one-tenth of the time to contract, and the ventricles three-tenths, leaving six-tenths of the period of a heart-beat when the organ is entirely at rest.

6. The gastric juice does not affect starches, nor sugars (except to dissolve the latter in the water of the juice). It dissolves out gelatine from connective tissues, and liberates the fat eaten, by dissolving away the albuminous coverings of the fat globules. It does not, however, affect the fat itself. The important action of the gastric fluid is, however, exerted on proteids which it dissolves and changes into dialyzable peptones. The acid of the gastric juice dissolves mineral salts taken in with the foods.

7. There is not such an immediate danger in swallowing grape seeds as is popularly believed. Instances, however, do occur where such indigestible grape seeds have found lodgment in the vermiform appendix, or tip of cecum, and there induced an inflammation called appendicitis.

9. The spinal cord, in general, controls the ordinary reflex activities, in which volition and the higher centers have no immediate part. The removal of a finger upon touching a heated surface is an instance of such a reflex activity. It is best exhibited in a decapitated frog with the spinal cord left intact. Upon stimulating the area of the body controlled by the cord, properly coordinated movements arise.

HISTORY.

1. What were the chief public acts of the administration of Jefferson.
2. Sketch the career and give an estimate of the character of John C. Calhoun.
3. What were the Alabama claims, and how were they settled?
4. What has been the effect upon American public life of our unsettled public lands?
5. Discuss the history work of the first three years in the State course of study.

1. The chief public acts of the administration of Jefferson were:

- a. A war with the Tripolitan and other Mediterranean pirates.
- b. The beginning of the international road.
- c. The purchase of Louisiana.
- d. The impeachment of several federal judges.
- e. The appointment of John Marshall as chief justice of the United States Supreme Court.
- f. The laying of an embargo upon American shipping.
- g. The lessening of the American army, navy, the national judiciary, the cutting down of national expenditures, and in general seeking to strengthen the local authority rather than the national.

2. John C. Calhoun was born in the South, derived his collegiate education in the North, and spent his public career almost wholly in the service of South Carolina. He began his career in the United States Congress as a representative from South Carolina just about the breaking out of the War of 1812. He was a strong advocate of that war. Immediately after the war he advocated the policy of a protective tariff, thinking it would be possible to build up manufactories in the South to manufacture the cotton, whose product was rapidly increasing. When it became evident that the South would not develop manufactures in any great degree he became a bitter opponent of the protective tariff policy. He was chosen Vice-president of the United States to serve with Andrew Jackson, but when South Carolina resisted the collection of the tariff in 1832, Calhoun resigned his position as Vice-president in order to enter the United States Senate, and advocate South Carolina's claims. It was on this occasion that Calhoun advanced his doctrine of nullification, the forerunner to secession—and which was so ably answered by Daniel Webster. From this time forward to within a few years of the Civil War, Calhoun was the spirit, heart and leader of the southern doctrine of States Rights.

Personally, Calhoun was a man of very great intellectual power, of sterling integrity, well beloved by his friends and neighbors, and whose uprightness of motive in whatever he did was unquestioned.

3. The Alabama claims were claims held by the United States against Great Britain for damages caused by Great Britain's assistance to the Southern Confederacy by allowing it to construct ships of war in English ports during the late Civil War. These claims were settled by arbitration, Great Britain paying to the United States fifteen millions of dollars in full settlement of damages.

4. The unsettled public lands of the United States have given rise to some of the most important political questions in American history, among which are:

- a. The question of internal improvements.
- b. The question as to what kind of labor should be allowed to extend into the unsettled lands of the West.
- c. These questions led, in a large measure, to the division of the United States into a northern and southern section which finally culminated in the Civil War.

5. The history work of the first three years in the State Course of Study, emphasizes the following points:

- a. That the whole current of history expresses itself in certain institutional lines; namely, the state, church, the school, the family, and the business world, and that in order to understand the events of history each one should be viewed in its relation to one or more of these institutions.
- b. That in primary history these principles and ideas of institutions are to be seen and developed through the study of representative men; that is, men who have been eminent in the development of one or more of these institutions.
- c. As a means of seeing the early struggle of humanity in building up institutions, Robinson Crusoe's career is to be studied.
- d. The institutional life of the immediate surroundings of the pupil is to be studied as illustrating the larger and more complex life which he will progressively study in the upper grades.

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FRANCIS M. STALKER AND CHARLES M. CURRY

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TWO YEARS' EXPERIENCE IN CIVILIZING APACHES.

LIEUTENANT V. E. STOTTLER.

THE matter of civilization and self-support of the Indians in her midst and on her borders is one vitally connected with the future welfare of the Territory of New Mexico. Any means that may be employed in furtherance of the above ought to be considered justifiable, provided that there is a fair chance of a successful termination. In other words, the ends attained ought to justify the means employed. My paper deals only with my personal experience with the Mescalero Apaches, who occupy a reservation of 700 square miles in Southern New Mexico, and number in all four hundred and fifty souls, more or less, making a total of 1,000 acres for each of them reserved from the public domain.

The Mescaleros are a typical Apache, and closely related by ties of blood to the other Apaches of Arizona and New Mexico. Typical, I say, because their principal characteristics are ignorance, superstition, cruelty, cunning, filth, laziness, stubbornness, immorality, drunkenness, begging, treachery and lying; a combination of vices that is certainly appalling, and calculated to discourage one who might be ambitious to lead them out of their wilderness into a promised land, entirely against their inclination, and in the face of their bitter opposition. Add to this the fact that a generous government has sent them annually, for many years, rations, clothing, implements, etc., and that the Indians were determined to maintain the *status quo*, and it will be seen

that a policy based on moral suasion alone never could accomplish what was needed, and that something different from the preceding methods must be employed. The writer assumed charge of these Indians in December, 1894. At that time they were receiving generous rations of beef, flour, coffee, sugar, salt, soap and baking powder. They were living in tepees or brush shelters on the side-hills; they wore breech clouts, and blankets, and long hair; a few raised corn and oats; Indian dances were indulged in; many manufactured *tiswin*; drunken brawls were frequent, with violent deaths or serious wounds; paint was lavishly used in their toilet; fifty per cent. of their children were at school, to which they were violently opposed. They were contented in their lot, and not only desirous but *determined* to maintain the order of things indefinitely. There was much tillable land on the reservation not used. The Indian bucks were strong, broad-shouldered men, as well able to work and make a living as any white man, could they be made to do so. There were twenty grown bucks, educated at an expense of thousands of dollars, with beautiful long hair, breech clouts and blankets, and paint, running about the reservation wilder than any uneducated Indian on it. There were several women, educated -- to wild bucks, living -- says. One of his boys



LIEUTENANT STOTTLER AND HIS INDIAN POLICE.

before my arrival. The old people, determined in their opposition to white people's ways, compelled these students to backslide on their return to the reservation, by means best known to themselves. The girls were held from school, and at ten and twelve years of age they were traded for ponies, into a bondage worse than the worst slavery known. A certain misguided, though well meaning class of our people insists on clothing and feeding such beings as these, although such methods of civilization would beggar and pauperize any white community on whom the experiment might be tried. A careful reconnoissance of the situation soon showed me that labor was the sole key to the problem, and that those who would not come to it must be *made* to do so. Twenty years of persuasion and rations found them where they had begun, and it was evident that both suasion and rations must be reduced at once. Neither did it appear to be a success to educate the few children in hopes that on their return they

would leaven the mass. The mass simply absorbed the few. Hence, any civilization of the tribe meant the education of an entire generation of children *en masse*. To accomplish these two things has been my aim. I shall show how I did it.

Fourteen Indian policemen are allowed the agent to enforce his orders. These orders consisted mostly of seeing that the herd of beef cattle for their own rations was properly cared for. The police, each, had a cabin to live in, and each had carefully planted a tepee alongside of it in which to sleep. None would wear their uniforms, all wore breech clouts, blankets, and long hair—very picturesque indeed. I was informed that a proposition from a former agent to cut their hair resulted at once in a "strike." I immediately ordered an increase of rations to the police, and informed them that when I had no police to herd the beef cattle I

would buy no more, and the tribe would go without any; and that any policeman who left the force thereafter would get no more rations, clothing or other help. That was a different matter. It was worth their while to think. In a few weeks I ordered every policeman into civilized clothing under threats of duress, and they reluctantly adopted it, and then all tepees were ordered away from their cabins. This was the first move.

A number of girls did not return to school from vacation the preceding year, and I at once deprived their parents, sisters, cousins, and aunts of all supplies, and issued orders that at the beginning of the school year, June 1, all children five years old and upwards *must* be placed in school whether the parents were willing or not. These orders resulted in a petition being drawn up under the careful direction of one of my white neighbors, and was signed by all the Indians asking for my relief as agent. No attention was paid to it by the authorities, but I picked out the ringleaders and punished them. My

chief of police and a smart private who had been to school, and acted as secretary in getting signatures,³ were discharged without help. The assistant farmer, who was under pay, and the Indian judge were similarly treated. It was customary, years ago, to pay the chiefs a salary in order to keep their influence, and the sight of one of them near the Agency usually caused such trepidation as to induce the agent to open the storehouse and load him with goods in order to hold his good will, and then hustle him back home. Of course the chief used his pay and extra goods to keep up his popularity with the band, and his influence was greater than ever. These chiefs were the spokesmen, the judges, assistant farmers, etc. I hurt their influence when I ordered them to go to work, and deprived them of the money and goods they had been given so lavishly. I refused to let them act as spokesmen, and the lowliest member of the band soon was at liberty to come to me and say he would like a ranch and would work if I gave him help. Every Indian man was ordered to select a piece of land and put in his posts. One chief who claimed the whole country deterred them by threats, and when this came to my notice, I ordered him into the Agency to live, and finally of his own accord he asked for work, and for three months he worked at twenty-five cents a day digging wells. When he got back to his own country the land had been divided up and was mostly under posts.

Getting each man to select land resulted in breaking up the bands and the influence of the chiefs. Now there are no chiefs. "Work or starve" has been the policy, and this has done more to induce the Indians to labor in civilized pursuits, than twenty years of rations and talk. It was constantly impressed upon them that rations would be cut off in a few years and they must have some means of

support. They would laugh at that, at first, as an old story, but I, from the start, pinched off their supplies until they realized that the day was at hand. Formerly wagons, harness, clothing, utensils, etc., as soon as issued, had been packed on burros and sold for a mere song to the settlers about the reservation. Little remained to show for wagons, harness and other supplies issued so lavishly in preceding years. I cut these off from the start determined to issue only as they needed and would use them.

The making and drinking of *tiswin* was a curse, and one hard to control. The last article an Indian had was traded for corn from which to make this detestable fluid—a drink, that those who claim to know, say, is more maddening in its effect than any other known intoxicant. Deaths and injury were frequent, and *tiswin*-making was carried on in a dozen places under the eye of the agent, with no more attempt to stop it than to spill it out when found, and



THE CHIEF OF POLICE, HIS TWO SCHOOL CHILDREN, AND HIS WILD BROTHER.

knock a hole in the bottom of the vessel containing it. Employes sent to do this were often assaulted with knives, and other injury from drunken Indians was only prevented with drawn revolvers. A pretty state, and all this being fostered by the paternalism of the government! I issued orders to kill any Indian making an assault under such circumstances, and incarcerated the *tiswin*-makers in the guard-house. This checked the manufacture somewhat, but hearing of isolated cases, I proclaimed from the housetops that I would make a bonfire of any camp at which I found *tiswin* thereafter. It was three months before I found any, but when I did I had a fine bonfire and put the makers of the poison into the guard-house for six months at hard labor. This was in June, 1895. Since then I have heard of no more *tiswin*, and not an Indian has been drunk on the reservation since, although I am sorry to say they occasionally get liquor when they go to Las Cruces for freight. All supplies are hauled from the railroad overland, one hundred and ten miles, by the Indians (about 150,000 pounds annually), without loss and to my entire satisfaction.

With all this, they retained their long hair and blankets. I induced one old fellow (a policeman), with a five-dollar gold piece, to cut his hair. His wife made life miserable, and in turn he pestered me to get the other police to cut theirs. I studied the problem long and earnestly before I gave the order. I was not sure whether the retention was due to superstition or vanity. I picked out the chief and two particularly stubborn ones who had never been to town, and sent them to El Paso with some hides to sell. The trip was a revelation to them, of course. While absent, one particularly steady man, who had taken a ranch and had worked steadily for a year, applied for a wagon. I told him he never would get one until he cut his hair. He went away and grieved. Then other candidates for wagons hearing of it came in and asked

for scissors to cut their hair. I refused, telling them I only wanted the police to have short hair. They saw their prospects for wagons vanishing, and begged so that I reluctantly gave in. With three men who had served as soldiers, and who wore short hair, I had seven who could act as police, and when the chief returned from El Paso I gave peremptory orders to cut their hair or go off the force. They all complied. I then sent into the highways and byways and gathered in every Indian who had been to school and had once had his hair cut, and made him cut off his long hair, and put on civilized clothing. It became necessary to put some into the guard-house, but they came around to it. I asked for orders from Washington and received them, compelling all to cut their hair. The Indians all gave in when they saw Washington's orders with the exception of the last man, whom it was necessary to drag from his horse and thump a little to bring him to it. As soon as their hair was cut, civilized clothing was issued, with a warning that a failure to wear it meant confinement at hard labor. In three weeks from the start the fact was accomplished. Now they come in and ask for scissors and comb to cut their hair, and volunteer the information that they used to be fools to oppose it, in which I heartily concur. This was the turning point in their wildness. Like Sampson of old, their strength lay in their long hair, and cutting it off, in my opinion, was the turning point in civilizing the old ones.

Not to exceed a half dozen of these Indians have two wives. None others will be permitted to indulge the practice, and polygamy will die a natural death. The same result, however, obtains through their practice of dropping a wife and taking another without the formality of a divorce. Either party, apparently, has this privilege. It is a matter hard to control, but I am of the opinion that when the women become possessors of land and sheep, their natural cupidity will

make them hesitate to part with so much wealth.

In spite of the easy divorce this tribe is about as badly henpecked as it were possible to imagine. The "old" woman, not the "new," reigns on this reservation. A simple superstition of these people creates a stumbling block that is made manifest very often when the agent or the "man in Washington" tries to inaugurate a policy or a movement in the interest of their better condition and support. "My mother-in-law,"

pleases. Perhaps she takes his wife to her tepee, where he dare not follow. He comes to terms or the situation constitutes a divorce. Does the agent wish a child brought to school, or a head of family to take land and try to farm it, the mother-in-law, if hostile—and she usually is—appears on the scene and the head of the family hunts the woods. The sight of several stalwart bucks hiding behind doors, barrels, and steps because a dried-up, wizened squaw heaves in sight is a spectacle that would be ludicrous

were it not for its far-reaching results. A man with polygamist practices should be entitled to some sympathy when one considers that the incubus increases with his added wives. The Indian with many wives in succession to his credit is in as bad a fix. The inevitable result is that if the agent encounters the ill will of these women his trouble will begin. Even a threat of a visit from his wife's mother will deter an Indian from doing the agent's bidding. If she should come and sit on his



SCHOOL GIRLS. LITTLE WILD ONE ON THE RIGHT.

that much maligned treasure of a higher civilization, wields here a power that is like a rock, against which lawful authority beats in vain. Just why it is no Indian has yet been able to explain to me, but an Indian cannot look at his mother-in-law. If she enters his tepee he leaves. If he enters and she is within he flees at once. He cannot stay in her august presence. If his wife and he quarrel, his mother-in-law puts in an appearance and manages his domestic affairs during his enforced absence so long as she

earthly possessions she could reduce him in one instant from affluence to beggary, as viewed from his standpoint, until such time as she could be propitiated.

It will be seen that the agent practically has innumerable mothers-in-law in doing his duty. In taking land it will be essential that, in order to keep intact the rights of succession thereto the family relation once entered into be maintained. To do this the mother-in-law must, so to speak, be reduced to the ranks. I have info

that the guard-house awaits any of them who I may learn have interfered maliciously with the families of their children. Hard labor added to the sentence may have the effect of breaking up the superstition.

I have not dwelt on the school. On this depends the future of the tribe. If the government will insist upon keeping up the expense, the money must be spent to the most advantage. In pursuance of my order, every child of school age was brought in, June 1, 1895. Every child that had been taken out of school was forced back, and the school enjoys the unique and satisfactory distinction of having one hundred per cent. of children five years old and upward in school. With one generation at school, if the tribe cannot be civilized and made self-supporting, it were well to give up the effort. The tribe has one hundred and sixteen children at school,—nineteen at Fort Lewis, Colorado, and ninety-seven at the reservation boarding school. The school force comprises two teachers, a matron, laundress, cook, assistant cook, seamstress, industrial teacher, and carpenter. I abolished all vacations and retained the children for twelve months each year. To allow them to go home for two months in the summer time permitted them to lapse into the Indian ways, to get dirty and filthy, to forget their English, to absorb the loose Indian morals, and was a temptation to the parents to retain them permanently and marry off the large girls.

Each child has one half day in class-room and one half day at industrial work. The details are made for three months at a

time. Each girl takes her turn in the laundry, sewing-room, kitchen and at dormitory work. The boys do the heavy work in the kitchen and laundry, chop the wood and till the farm under the charge of the industrial teacher. All the vegetables for their use and some for sale, are raised on the farm. This year they raised 25,000 pounds beets, 20,000 pounds cabbage, 1,000 pounds cauliflower, 3,500 pounds turnips, 1,400 pounds onions, 500 pounds radishes, 1,400 pounds celery, 19,000 pounds pumpkin and squash, 400 pounds peas, 960 pounds corn, 6,500 pounds potatoes, besides cucumbers, pieplant and asparagus. The school has a pen of swine, a flock of chickens, and a fine herd of milch cows, and all the hay and fodder for them and ten horses are raised on the farm. Oats and corn are purchased from the Indians, who raised 150,000 pounds in 1895. The adult Indians cut one hundred and sixty cords of wood for the school, for which I paid them \$2.50 per cord.

The aim of the school is to teach the rising generation how to make a living with the resources of the reservation. No attempt is made to teach fancy trades that will be of



SCHOOL BOYS.

no use to them. Boys are detailed with the blacksmith and carpenter to learn the use of the common tools.

One drawback has been the utter contempt held by the males for the women. They were apparently made for their use and convenience and to do all the dirty and heavy work.

It were no use to combat this with the old people. The rising generation must be differently trained. Boys and girls in the school are thrown together as much as possible. They study and recite together, and sit at the same tables at meals; a sociable is held every Friday night, where, besides some games, the children indulge in the reel, lancers and quadrille. Every boy is required to approach a girl politely, with the formula—"Will you please dance this dance with me?" offer her his arm and to escort her to the proper place on the floor; and when the dance or play is finished, take her to her seat and leave her there, saying, "Thank you." These sociables are looked forward to with the greatest anticipation, and the effect on the children has been most marked. The boys have learned that the girls must be respected, and must not be handled and treated like animals. The girls insist upon this respect being shown them, and if the required polite formulas and manners are not used they quickly resent it. Under such a training, I know from remarks dropped by the girls, that they appreciate their worth, and that the day of auction sales of them to the highest bidder has gone for good. The last case of immorality at the school, evidently so difficult to manage at other schools, occurred two years ago, when the principals received such a flogging that effectually deterred other aspirants.

For two years I represented to the Department the advisability of giving the Indians sheep, as a move in their self-support, but it was not until this fall that I was allowed 5,000 for distribution. The reservation is mountainous, and one of the finest sheep ranges in the country. In addition,

500 head were allowed the school. My purpose was to have the Indians raise their own mutton and then cut off their supply of beef, which cost the United States \$6,750 the present year. I have already recommended that all rations except beef, be cut off July, 1897, and authority has been granted to do so.

On December 7, 1896, some Navajo blanket makers came to the reservation, on my solicitation, and have been busy since, teaching the Mescalero women to card, spin, and dye wool and make blankets. Twenty of the Mescaleros to-day can make as good blankets as the Navajoes themselves. The ability to do this puts another opportunity in their possession to make a self-support, and as soon as the first clip of wool is gotten in the coming spring there will be plenty of instructors for the remaining women. A room is set aside at the school which is already filled with the looms of the older girls, who are busily engaged in weaving blankets. It is the intention that the rising generation shall be able, on leaving school, to take their flocks and obtain from them by their own labor a self-support that has been so begrudgingly given to them in the past.

The situation to-day, on the reservation, is this: Every male has cut his hair and adopted civilized attire, has taken a piece of land, fenced it and started to raise grain and vegetables; he either has a good cabin with cook-stove and utensils, or he has his framework up, and his logs cut and hauled to the saw-mill, and is waiting for the boards. There is no drunkenness. He has ten head of sheep for each man, woman and child in his family. Every child is in school. Paint has been abolished, and all their dancing is prohibited. Not one but understands how to plant and raise grain. Nearly every man has his wagon, harness and plough. What further is to be done? Why, cut off all paternalism and throw the adults on their own resources, retain all children at school until able to farm for themselves.

Another question comes in;—I doubt if any one will make a satisfactory citizen who can not read and write. Those accomplishments, alone, will not fill the bill. Hence, if they are to be made citizens, the rising generation is the hope of the tribe. The Territory of New Mexico is vitally interested, and especially so far as the school fund is concerned, which depends on taxes for its maintenance. The policy of the United States

in regard to schools, is to throw the Indian children into the public school system as soon as practicable, and thus raise red, black, white and mixed, under the same system. In the districts adjoining the reservation, school is some times held for two or three months during the year. The United States will not abolish a twelve-month system for such a makeshift as that. Neither do I think it would be advisable to try to send children to day-schools until their parents are all living in houses and making a living, warranting their being able and ambitious to send their children to school clean and well clad.

Indian parents are more opposed to school than others, and the compulsory laws should bear strictly upon them, and if necessary, a special officer should be appointed to round-up the truants and keep them in school. I believe the United States would maintain a policeman (Indian) for that purpose, and I also believe the United States would willingly pay a per capita sum for education of Indian children, based on actual attendance. Such a sum ought to maintain school ten months every year in the districts so fortu-



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nate as to gain the attendance. The United States could well afford to pay such a per capita, as it would thus rid itself of the maintenance of the Boarding-school with its corps of teachers, horses, some cattle, poultry and expense for flour, coffee, sugar, clothing, etc.

Is it expedient for the government to go further than to tame these people, get them off the warpath and make them self-supporting and clean? There are all grades of intelligence among their children. Some could be taken away and taught the higher branches. The same is true of the whites and Mexicans in the territory. Does the United States insist on spending money on *their* education? No. But why not if they have the capacity? The Indian is a fad with people who can influence legislature, the others are not. I believe every child should be taught civilized ways, that the parents should be given land, a house, cook-stove and utensils, a flock of sheep, all reservation lines eliminated, the children compelled to attend the public schools, and in my opinion the necessity of working or starving will convert the tribe into useful inhabitants and producers.

At the present rate of progress, two years more should see the reservation subdivided and allotted to the Indians, the reservation lines abolished, the land made public domain, the tribe absorbed into the body politic of the Territory, the children attend-

ing the public schools, every family with plenty of food raised by its own exertions, and happy and contented with being the possessors of an ample independent self-support.

MESCALERO N. M.

ON THE TEACHING OF ENGLISH LITERATURE.

FRANCES WILDE.

PROBABLY at no past time have there been so many fine, healthy pedagogical theories abroad in the land as at present. Probably on no subject are the theories finer than on the subject of teaching literature. Certainly in none are they harder to harness and get to work. And the most difficult place to apply them is in our secondary schools. In the universities there is better material to work with, for the law of natural selection of students has had more time to take effect; while in the lower grades, the systematic study of literature has been so recently introduced that there are no traditions to hamper teacher, or pupils, and prevent them from going directly to the desired end.

That the study of good literature, and the development of a taste for it, make one of the most important factors in character formation has been so often stated that it has become trite and matter of course. Yet it not infrequently happens that our brightest pupils yawn through a literature recitation, that the most practical consider it an unreasonable waste of time, and that the whole class look upon that lesson as the one to be slighted, left to the last, or neglected entirely, for the more serious business of Latin verbs and right-angled triangles. At best, to find those who have learned from their literature lessons to love Shakespeare or Milton or any of that noblest brotherhood to whom we fain would introduce

them, is almost as difficult as to find a man who habitually reads Cicero and Virgil in the original by reason of a taste acquired in the high school.

Now, our English literature is the crystallized wisdom, the embodied spiritual energy of the heroes of a mighty race; and like every other expression of noble personality it has a vital force which kindles every mind it touches with the fire from on high. Then, woe unto us if we miss our chance of touching this sacred torch to the young minds given us to educate; for there is no surer help to that upspringing spiritual vitality which is the very essence of the noblest human life, that glad, eager striving to comprehend, to conquer and create, which is the noblest human activity.

The real source of the power of literature, as of every art, is not merely that it tickles our intellectual palates, that it opens our eyes to facts and their significance, that it broadens our range of thought and feeling; these are but accessory to the fundamental fact that it is the means used by one strong, original soul to reach other souls. And the power of active personality is yet the greatest power known.

But the problem of how to bring ignorant, thoughtless lads and lassies into touch with the master minds is not always an easy one. It begins with the selection of material for study, and that is

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the first condition for making a wise choice of literature for them; a fact obvious enough, but frequently overlooked.

No two schools are alike, no two classes. Yet there is enough similarity in young people of the same age to warrant us in being guided as to general direction by a few principles.

First, the subject-matter must be interesting to the students; otherwise the study is a mere grind, without significance or helpfulness to them. Healthy-minded boys and girls in their early teens like reading that is concrete, dramatic, picturesque. Later comes a reflective stage, the beginning of an adult's more definite self-consciousness, a more decided tendency to make their own mental experiences objects of attention, an involuntary groping after the meanings of things. Then they will comprehend lyric poetry, simple literature of philosophy and religion. As to the literature of Nature, to the earlier period belongs pure description like that in "Evangeline," Irving's word painting and John Burroughs' studies; to the later reflective writings like Wordsworth's or Emerson's. Not that any definite lines can be drawn in all this matter.

Attempting to do that we are at once involved in perplexing inconsistencies. But the above is broadly true; and whatever excellent theories we may have on the subjects of correlation, culture-epochs, etc., must not overshadow the main fact that boys and girls will get very little, if any, good from literature unless it appeals to them. If an appeal to them is to be emphasized in literature, the form of the appeal to them is, owing to our present conditions, which literature is to meet the purpose really well. We have yet to grow up quite to the idea that work with the inspiration of interest is apt to result badly in a distaste for work, which is usually compensated by the extraordinary value of learning to "hedge." Besides, the student's sympathy with the author is his best help in getting the details of the work as he is reading it. It is well enough that the pupil should have some

some digging for the golden meaning, that his new work should be a little harder than his old; but too many new words, too many unfamiliar allusions, expressions too condensed, are discouraging to a very young student. He sees no reason to believe that there is anything behind the apparent jargon, and promptly votes the whole thing a bore.

Finally, it is unnecessary to say that the pupils should have the very best literature; it is possible to give them within the limitations imposed by their own immaturity and ignorance.

But after the wisest choice of material, there yet remains the problem of teaching our young students to read. With the better methods rapidly obtaining in the lower grades there is reason to hope we may soon find much better trained minds in the secondary schools. But at present it is true that the majority of our high school pupils, like the majority of adults, do not know how to read. They peruse a book with the mind comparatively passive; the comprehension of the writer's thought is incomplete, the impression of it, therefore, more or less vague and transitory, the mental effort put forth has been slight, and the mental gain is in proportion.

Of course, the first factor in overcoming this inertia and carelessness is the interest of the reading-matter for the pupils; and the next is their consciousness that they are to be always and severely held responsible for getting hold of every shade of their author's meaning. There is a kind of teaching which lays particular stress upon the definitions of words, analysis of metaphors, explanation of allusions, etc., risks making the literatureless a badly an exercise in the mere finding of mistakes. But if the pupils are to be trained with the idea that it is their business to reach the author's thought, and that the author's language is to be used for that, these details will fall into their proper place, and the mastery of them will be a necessary and more than

ough, because it is work done from a motive within, instead of under coercion.

To make sure that the pupils do grasp the content of a text, a teacher must follow the action of each of their minds. Keen, definite questioning on the general meaning of phrases and on their special significance in the text, is the method which most naturally suggests itself as a means to this end. Paraphrasing is invaluable for revealing to the pupil weak places in his own conception of the author's thought, and for giving clearness to the same, as well as for helping the teacher to see how the student's mind is working. An excellent method, much neglected, is requiring pupils to read aloud well. A careful listener can usually see, without much difficulty, just what the matter read means to the reader; moreover the effort to express in tones and inflection his idea of the author's meaning, reacts upon the pupil's conception as the attempt to paraphrase does, making it more definite.

If we can get our boys and girls into the habit of reading with minds active and alert as their bodies are when they play tennis or baseball,—that alone is worth a four years' course of study, for it is the prime element in right reading, and other benefits follow naturally. It is because so few people do read thus vigorously, instead of looking upon reading as a mere idle pastime, that volumes of the classics on most book-shelves are so little worn, and the treasures they hold hardly conceived of by their owners.

The second element of good reading is dependent on thorough understanding of the book and usually consequent upon it.

It is putting one's self clear out of sight to think the author's thought, feel his feelings, live his life, for the time. That is a most important phase of the subject, for besides being necessary to any true appreciation of literature, the ability to lay aside one's own prejudices for the sake of entering into another's life is one of the greatest and most powerful elements of character. But making the literary work one's own is

not all there is to reading. There comes the reaction when the reader's individuality reasserts itself and he passes judgment on what he has read.

The germ of the critical faculty is in every mind, and most girls and boys are ready enough to express their criticism in terms of *I like* and *I don't like*. It is for the teacher to cultivate this crude, instinctive judgment by leading his pupils to fairly and thoughtfully test the value of a work by the measures of their own experiences of real life and their own intuitions of truth and beauty. It is a difficult task, for their ideals are often faulty, their experiences but vaguely comprehended. And to develop their formless ideas is so much harder than to say, "Such is my opinion or the opinion of others. Accept it on authority." But it can be done, to some extent, with the duller pupils. To continually demand the reasons for their opinions will lead them to think definitely and reasonably, and every beautiful image, every good idea, that finds entrance into their minds, every bit of logical thinking they do, helps clear away the mists between them and that divine truth and beauty which is the ideal of ideals.

Thus far we have spoken only of the relation of the pupil's mind to the content of the work he studies, and have said nothing of the study of style. Indeed, the former is the chief thing to be considered, for one who is moved by the spirit of any work of art, will unconsciously begin to appreciate the peculiar excellencies of its form. Yet it is possible to assist by cultivation the development of that discriminating literary taste, without which one cannot get the full, fine flavor of the best literature. Comparison of different authors as to perspicuity, melody, picturesqueness, figures of speech, local coloring, etc., comparison of their own paraphrases with the originals; analysis and reconstruction of sentences and paragraphs; not of the artistic value of phrases; tracing the author's en-

vironment, education or character; a hundred methods suggest themselves. Of course, by none of them can we touch the real essence of style, which is the embodiment of the author's individuality, but they all help to throw light on it. This is for the teacher the easiest part of the work, because the most tangible; and to the pupil it is usually interesting if carried on energetically. It sharpens their faculties to a remarkable degree; and it opens by many doors into the subjects of language, psychology, history and nature-study.

Now, finally, the test of any book is its suggestiveness—its power to set us to thinking new thoughts, recalling and grouping past experiences and trying anew to penetrate mysteries; and it is perhaps the teacher's greatest privilege to strengthen and direct these special activities aroused in his pupils' minds by contact with the ideas in books.

Let us take for consideration here our stock example, "The Vision of Sir Launfal." The poem owes much of its richness to suggestion by association. As we read the prelude to part first, the dreamy, remembered joy of unnumbered rare June days mingles with the poet's music, and we catch the very spirit of summer. In some of our pupils the poem awakens a like response, in more it does not. But we may by artful questions and hints call up their dormant kindred recollections to help fill out the poem and make it live and fertile in suggestion for them.

So with the glad young knight starting forth on his chivalrous quest. It is not the mere picture as given us that so charms the thought; but all the delightful romance of chivalry, all the picturesqueness and mys-

ticism of mediæval religion, and the quaint beauty of old holy legends, are evoked by such magic words as "The Golden Grail," "The proudest hall in the North Countree," "The maiden knight in his gilded mail." And if for some pupils' slow minds the words have no such occult power, the teacher must awaken and link with this tale their memories of all they have heard or read of that gorgeous, storied past.

Then there are the more subtle suggestions which touch the very springs of feeling and action; glimpses of the working of fundamental spiritual laws, hints of those mystic relations—which words can only hint—of the human soul to the Infinite. And these incipient insights and outlooks are to be made clearer by correlation with the learner's experiences, intuitions, his experimental knowledge of life.

Sir Launfal is the typical highminded youth, brimming with enthusiasm in the quest of his high ideal, self-confident, egotistical, self-absorbed, but pure in motive, and earnest. And his lesson, learned through trial and disappointment, the lesson of self-surrender and perfect love; his real success springing from the apparent failure of earnest effort, his loss of the splendor of youthful ambition and effervescent enthusiasm, to gain the greater glory of the true divine image; these are essential parts of the infinitely significant drama of human life. And when the pupil recognizes them as such, and feels in himself the possibilities of like experience, and when he strives to see farther into the workings of that perfect law of love, then the poem has done its work for him, and the teacher may rest content.

KIRKWOOD, Mo.

O Risen Christ! O Easter Flower!
How dear thy grace has grown!
From east to west, with loving power,
Make all the world thine own.
—PHILLIPS BROOKS.

NATURE AND RELATION OF PARTICULAR AND UNIVERSAL CONCEPTS IN TEACHING.

In teaching, we deal either with the particular or universal concept. Then it is necessary to understand, to some extent, their essential nature and relation to each other, as well as their relation to the universal law or basal principle of teaching. We shall only give a general view here.

Too often the individual or particular concept is supposed to come into the mind through the senses ready-made, but the fallacy of this view has already been exposed. All the knowledge we get, we must construct in our own minds. Our world vision is our own product. To an intellect which merely registers experience, there can be no knowledge. There must be a universalizing process in all cases; i. e., the so-called percept must be lifted from its fleeting state into an abiding meaning. The mind, even in association, can deal with universals only. The sensation in order to be knowledge, must be classified under one or more universal categories or concepts. But the individual as occasioned by the senses, appears at first as isolated, because it is not yet seen in all of its relations or in its ultimate nature. It appears only in its imaginative stage to the young mind or to the undrilled mind. The most prominent relations with such people being time, space, motion and number; the objects are only picturable and fleeting. Yet, to the extent that they are classified they have universal significance. Anything must have a fixed meaning to be dealt with by the intellect. Still, the growing mind goes on to higher phases of thought. The objects are seen in wider and wider relations, yet all the time the mind is proceeding along the line of its fundamental laws. The metaphysical relations of substance and attribute, cause and effect, identity, purpose, etc., are employed to extend the circle of relations of the object. These higher classifications come only with increasing thought power. Knowledge is a continual growth. Finally, through the various mental processes of arriving at higher and higher relations, the mind grasps the ultimate nature of its object. It is the pure reason that perceives the worth of an object as true, beautiful or good.

As an example of the mind perceiving wider and wider relations as knowledge increases, we may mention the Battle of Lexington. To the child, its temporal and special relations are most prominent. It pictures the scenes and sees all the movements, but this is about the relation of the battle to the

Revolutionary War, i. e., he sees how this battle helped to bring about the formation of a new Constitution. The causal idea or relation is now playing which binds all events into a whole. He sees also the purpose of the battle, and the part it played in the great purpose of the Revolutionary Period, and later on the part it played in the great panorama of life, which is a strife after freedom. He thus extends and extends the relations until he comes to the central thought of all history which is a striving after a more perfect state of activity under the guidance of law. He may keep extending relations until he brings the universe into the one particular event. This is all rendered possible by the nature of thought, both subjective and objective, or by the nature of thought as it is in our minds, and also as objectively realized in things.

The extent of the circle of relations should be conditioned by the grade of the class. Most any important event in history, geography, grammar and the other branches may have sufficient in it to tax the powers of all grades of students from the lower schools to the university. The teacher who understands the order of mental development will know what to present at any stage of the pupil's advancement. But at any stage the subject should be presented in as great fullness as the student can well comprehend. Let growth-development be the watchword, and do not stultify by lack of stimulation. The teacher should be a true gauger, as well as stimulator, of thought activity.

When we come to see the individual in its full significance, we see it is not formed by abstracting the common marks and then generalizing, for logically this process would lead to zero. But the individual concept has in it in a particular way all that the universal concept has in it in a general way. This must be so if we wish our fundamental concepts to represent reality or more than mere forms. What we ought to be after is *reality*, and if we are our categories will be as complex as reality. The law and internal structure of the particular concept is the same as that of the universal. We pass from the particular concept to the universal by universalizing the particular marks; or, in other words, by mere substitution. In the former the marks apply only to the particular, while in the universal they apply to all individuals of that class. Man must have all the attributes that James Whitcomb Riley has, otherwise the concept could not be law-giving to James Whitcomb Riley. The universal concept is sufficient to be whittled down to fit any particular thing under it. As to its form, it never changes, conscious content may increase; yet change must not be confused with change in

things. This view of the individual concept being so enriched can only come to the more advanced students. The widening of the circle of relations is a gradual process resulting in greater and greater mental development.

It must be remembered that the individual and universal develop together. One cannot be without the other. The individual can only be defined in terms of the universal; therefore, every individual must have a universal back of it. The universal is only real in the concentered individuals. There are no universal essences. Universals exist as ideas only. The idea *table* is only real in the individual table. There may be an infinite number of individuals produced from one universal.

O. L. LYON.

STEELEVILLE, MO.

SCIENCE IN THE TEACHING OF ENGLISH. XXI.

COMPOSITION.

DESCRIPTION.

Description is that discourse process which treats of the particular or individual idea as it exists in space, at a particular time, having co-existing attributes and parts. It gives us the fixed view of the particular idea, and as no idea is fixed or unchanging, strictly speaking, the definition is only relatively true.

The question which now confronts us is, how can the teacher best lead the pupil to see the laws or principles which govern the construction of this kind of discourse so that he can write it understandingly; or how may pupils be led to write description in accordance with the principles indicated in the last article without burdening them with definitions and dry statements of rules?

If one were going to learn watch-making, he could get a book on the subject and read the description of a watch, learn the name of each part, etc., but I do not think that would be a good way to go about learning the business. I do not think that practical jewelers would recommend this method. They would likely recommend that the learner go to work on a watch. He would, in all probability, be asked to examine the watch carefully, and under the supervision of one who understood the subject, he would take it apart, learn the name and use of each part and its relation to other parts; he would try to comprehend the principles of its construction, according to which it does its work, and then he would try to put it together again. By persevering in this course of training, the young man would finally become a watch-maker and be able to construct one for himself.

So also, the pupil in learning description might take the text and read all about this form of discourse. He might read that it sets forth a particular idea and learn all the rules or principles underlying the process, etc. But it would seem to me better to follow the method of the watch-maker, which is also the method of Bacon and Agassiz. Why not "study the fish?" How could one better gain a knowledge of description than to take a piece of description that has been produced by a master at the art and analyze it, take it to pieces, see how it is put together, and the principles according to which it is constructed?

I wish, in this paper, to show as clearly as I can how the nature of description, the kind of idea with which it deals, the principles which govern its construction, etc., may be worked out with pupils from literature. For the purpose of illustration, I shall use Irving's "Westminster Abbey," and some of the work presented is work which has been done by students in the composition classes in this school. This work on this selection could be done nicely by pupils in the seventh and eighth grades, although they might not be able to think the work out in such minute detail as the students in this school have done. Neither would one expect children to write such thoughtful papers as those which I shall present in connection with this work. But the study of the selection would lead the children of the grades to understand description as indicated above, and it would furnish them the material for a paper, and a motive in writing it, just as truly as such a study would help the students of this school to these points. The work in the third, fourth, fifth, and sixth grades would not differ from this which follows, except it would be simpler in its character; the teacher would need to give the children more direction and assistance, and they would need to work on more simple literature, which the school readers will furnish in abundance.

Ask the pupils to study the selection under the following outline:

SCHEME FOR THE STUDY OF A SELECTION.

I. *The idea treated.*

What is the idea about which the author is writing in this selection? What is the idea treated by the author? What is the subject of the selection? What idea is the author trying to put before us?

II. *The purpose embodied in the selection.*

What is the purpose embodied in the selection? What effect is produced on our minds by the selection? Think how you felt before you read this selection, then how you feel since you have read it; what change has it made in you? Is

there a lesson taught by the selection; if so, what is the lesson? What do you think the author meant to accomplish by this selection?

III. *The means employed in the accomplishment of the purpose.*

Mention one point that the author has presented about the idea treated. Why did he tell us this? How does it help to accomplish the purpose? Read the first paragraph. Why does the author tell us that which is expressed in it? How does this help to accomplish the purpose? Show how the thought of each paragraph helps to accomplish the purpose. Has the author told all that could be written about the idea treated? Mention some things which he has not told us. Why does he not tell us these things? Would they help to accomplish the purpose? Suppose he had left out the fourth paragraph, would the selection be complete—Why? Suppose he had written the sixth paragraph before the third, would the purpose be just as well accomplished—Why? Is it necessary that the thought of the first paragraph be presented first, the second next, the third next, etc., to the end, or could the purpose be accomplished just as well if the points were presented in a different order—Why? Show what you think the author must have done in writing this selection. If you were writing a composition what would you need to do first; second; third?

It will be seen that the preceding outline may be used in dealing with any selection. The teacher should first work out all the points carefully with the children in the class. The questions in the outline have been repeated and stated in many different ways in order to make them clear to the children. Perhaps with some classes, the teacher will need to make them still more simple. It will take several lessons to work out the thought of the selection orally in this way. After this has been done, the teacher may ask the pupils to put the organization of the thought of the selection in the form of an outline something like the following. Several bases may be employed in classifying the means used by the author in the accomplishment of the purpose; e. g., on basis of attributes presented in accomplishing the purpose; on basis of attributes and spatial parts presented by the author in accomplishing the purpose; on basis of emotions awakened by the selection, etc. In the following outline the means are classified on basis of attributes of the idea treated employed in accomplishing the purpose:

*ORGANIZATION OF "WESTMINSTER ABBEY."

I. Idea treated.

* This outline was written by Maud E. Metsker.

1. Westminster Abbey.

II. Purpose embodied in the selection.

1. General.

a. To awaken emotion.

2. Special.

- a. To awaken the emotion of reverence for true character and manhood. b. To awaken the emotion of aversion for the vain attempts of mankind to perpetuate the memory by monuments, inscriptions and the lavish use of money.

III. Means employed in accomplishing the purpose.

1. On basis of attributes employed in accomplishing the purpose.

a. Attributes of the whole.

(1) As to the exterior.

- (a) Congeniality of the season. (b) Old pile. (c) Mournful magnificence.

(2) As to the interior.

- (a) Regions of antiquity. (b) Shades of former ages. (c) Distant shore of time. (d) Magnitude. (e) Spacious and gloomy. (f) Awful nature of. (g) Death-like repose of. (h) Hushed. (i) Still, deserted and obscure. (j) Mighty. (k) Vast pile. (l) Wilderness of tombs. (m) Vast assemblage of sepulchres. (n) Treasury of humiliation. (o) Huge pile. (p) Empire of death. (q) Great, shadowy palace. (r) Towering pile.

b. Attributes of the parts.

(1) Passage.

- (a) Long. (b) Low. (c) Vaulted. (d) Dimly lighted. (e) Subterranean. (f) Dark avenue.

(2) Cloisters.

- (a) Quiet and secluded. (b) Gloomy, monastic. (c) Touching and pleasing decay. (d) Crumbling walls of. (e) Aged. (f) Moss-covered inscriptions of monuments. (g) Single sunbeam. (h) Scanty grass-plot. (i) Dusky splendor of. (j) Glimpse of sun-gilt pinnacles. (k) Mingled picture of glory and decay. (l) Tomb-stone pavement. (m) Worn and defaced condition of effigies of early abbots.

(3) Abbey clock.

- (a) Startling sound of. (b) Distant. (c) Echoing sound of.

(4) Columns.

- (a) Clustered. (b) Gigantic dimensions.

(5) Arches.

- (a) Amazing height.

(6) Poet's corner.

- (a) Simple monuments. (b) Lingering of visitors there.
- (7) Former chapels.
(a) Now king's sepulchres. (b) Dusky chambers of death. (c) Quaint effigies. (d) Strangely populous. (e) Resemblance to fabled city.
- (8) Tomb of crusaders.
(a) Picturesque. (b) Decorated. (c) Relics of antiquity. (d) Solemn and awful. (e) Extended effigies of. (f) Superiority of inscriptions.
- (9) Tomb of Mrs. Nightingale.
(a) Renowned achievement of modern art. (b) Horrible. (c) Disgusting.
- (10) Chapel of Henry the Seventh.
(a) Gorgeous. (b) Gates of brass. (c) Pomp of the architecture of. (d) Elaborate beauty of. (e) Ornamented walls.
- (11) Stalls of Knights of the Bath.
(a) Lofty. (b) Oaken. (c) Richly carved. (d) Grotesquely decorated. (e) Gothic architecture. (f) Contrast of rich coloring of the banners with the cold gray fret-work of the roof. (g) Sepulchre of king and queen in the midst. (h) Magnificent. (i) Vacant. (j) Solitary and deserted. (k) Presence of birds' nests.
- (12) Tomb of Elizabeth.
(a) Close proximity to grave of her rival. (b) Scepter stolen from. (c) The hand of her effigy.
- (13) Tomb of Mary.
(a) Signs of sympathy. (b) Melancholy. (c) Deep shadow. (d) Weather-stained walls.
- (14) Organ.
(a) Deep-laboring. (b) Pealing.
- (15) Shrine of Edward the Confessor.
(a) Elevated. (b) Nearness of coronation chair. (c) Broken coffin. (d) Funereal ornaments stolen.
- (16) Coronation chair.
(a) Great. (b) Rudely carved. (c) Oaken.
2. Show how all these points contribute to the accomplishment of the purpose :
- a. The autumnal season is conducive to thoughtful considerations of life and death. b. The mournful magnificence of the exterior prepares the mind for solemn contemplation within. c. The author speaking of the interior as "regions of antiquity," "shades of former ages," and a "distant shore of time," aids the mind in recalling the history represented or suggested therein. d. Magnitude,

spaciousness, gloom, stillness, obscurity, and death-like repose of the interior, all help to produce the feeling of awe and solemnity. e. Wilderness of tombs, vast assemblage of sepulchres, treasury of humiliation, and empire of death, all emphasize the thought of death. f. Long, low-vaulted, dimly-lighted, subterranean-looking, dark passage—practically shut out the outer world, awaken the feeling of awe, and are conducive to solemn contemplation. g. Quiet, secluded, aged, gloomy, monastic cloisters continue the feeling of awe awakened by the long passage. h. The crumbling walls, the moss-covered inscriptions, and the worn, defaced condition of the effigies of the abbots, show the short existence of monuments and buildings, and show their futility in perpetuating the memory. i. The single sun-beam, the scanty grass-plot, and the glimpse of the sun-gilt pinnacles in contrast to the dusky splendor within, awaken the feeling of reverence for true life and light and emphasize the futility of earthly splendor. j. The startling, distant, echoing sound of the clock increases the feeling of awe and is a reminder of fleeting time. k. The simplicity of the monuments and the lingering of visitors in Poet's corner show the humility of true greatness or true character and the reverence given it. The true method of perpetuating the memory. l. Quiet, picturesque, deserted tombs of the crusaders show futility of worldly honors in the perpetuation of a name. m. Tombs of the kings show that monuments alone will not command respect or perpetuate the memory. n. The tomb of Mrs. Nightingale awakens the feeling of aversion to depicting death as horrible. o. The presence of the sepulchres of the king and queen in the midst of Henry the Seventh's chapel shows the closeness of earthly glory to oblivion. p. The close proximity of the graves of Elizabeth and Mary shows how the grave equalizes the oppressor and the oppressed. All are equal in death. q. The sound of the deep-laboring, pealing organ is conducive to a reverential frame of mind. r. The coronation chair in the midst of tombs shows the futility and temporary existence of royal greatness, and that from the throne to the grave is but a step.

3 Principles of discourse with which the author has complied, as indicated by the outline.

a. Laws.

(1) Primary.

(a) Purpose—Worthy, exalted, the author has adhered to it.

- (b) **Unity**—Unity is observed throughout the selection. Every thought bears same relation to the purpose and there is nothing irrelevant in the selection.
- (2) **Secondary.**
- (a) **Selection**—All the attributes and parts presented are of such a nature as to contribute to the accomplishment of the purpose, as indicated in "2."
- (b) **Completeness**—Just enough, and no more than are necessary of these attributes and parts have been presented in order that the purpose may be clearly embodied.
- (c) **Method**—The parts and attributes, or means employed, are presented in the order best adapted to bring out the purpose.

J. B. WISELY.

POLITICAL ECONOMY IN THE PUBLIC SCHOOLS—XIV.

TAXATION.

The necessity of taxation.

Governments are expected to secure justice to citizens, to promote the general welfare, and to defend the state.

In order that justice may be secured, legislative bodies must meet to make laws, courts must be held to secure justice according to these laws, and an executive department must be maintained to see that the affairs of government are properly administered.

The various departments of government cannot be carried on without proper officials and these will not give their time and services to the state without pay.

Foreign invasions may have to be repelled, civil strife be put down, and crime checked. That these things may be provided for, police forces, armies, and navies must be organized, equipped, and paid.

The general welfare of a nation is greatly promoted by increasing the intelligence of its people. To educate the people, schools, colleges, libraries, and other means of education must be provided.

Many things in the way of public conveniences must be attended to by the government; roads and bridges must be built and kept in repair, post-offices and post-roads must be maintained at public expense. Cities must take care of their streets, construct sewers, furnish a supply of pure water, and provide for lighting the streets.

That industry and commerce may be promoted, rivers and harbors must be improved, light-houses

built, experimental stations and weather bureaus established.

Governments are also expected to look after the public health and to provide for the relief of the poor and unfortunate.

These and many other things expected of the government require large sums of money, and there must be some method by which the government may be in receipt of a permanent income. The larger part of this income must be obtained through some system of taxation.

The justice of taxation.

The service rendered by the government is for the benefit of the people, and they should pay for this service since the government has no resources of its own. The government has no way of earning an income because, recognizing the rights of private property, it does not engage in productive enterprises. But while the government recognizes the right of private property it does not resign its claim to a share of such property for its own use. Chief Justice Marshall held that—"The power of taxing the people and their property is essential to the very existence of the government, and may be legitimately exercised on the objects to which it is applicable, to the utmost extent to which the government may choose.

Systems of taxation.

There are two systems of taxation in use in the United States. One is known as the State system, and includes the taxes raised for state and local purposes, by authority of the state; local taxes are taxes collected for county, township, school and municipal purposes. The other system is known as the Federal, and includes the taxes raised for federal expenses by authority of the United States Constitution.

Kinds of taxes.

Taxes may be divided into two classes; *direct and indirect*. A direct tax is one levied directly upon the person who has to pay it. He cannot by increasing the price of the thing taxed cause some one else to pay it, nor can he escape paying it; since, if he refuses, the government may sell enough of his property to pay the taxes.

An indirect tax, while collected from the individual holding the goods, is really paid by those to whom he sells, because of an increase of prices.

Direct taxes.

The principal forms of direct taxes are:—1. Poll tax. This is a small tax levied upon male citizens over twenty years of age. 2. Property tax. This is levied upon the kinds of wealth which are subject to taxation. Property is divided into real or personal and land.

Personal property includes all kinds of property not classed as real-estate.

The taxation of personal property is objected to by many on the ground that it is impossible for the government to get a fair and equitable estimate of the value of all the personal property, since unscrupulous men will try to conceal their property to escape taxation. 3. Income tax.—This is a tax levied upon the incomes of citizens. That it may not be too heavy a burden upon those receiving small wages, incomes below a certain sum are exempt or pay a smaller per cent. than that paid on larger incomes. This form of taxation is also objected to because of the difficulty of finding out what a man's income is. 4. A tax on inheritances and bequests.

Distribution of the burdens of taxation.

It is a principle that taxes should be levied in proportion to the ability of the individual to pay. This is not always easy to determine. Different ways for equalizing the burden have been devised and tried. Taxes are usually levied in exact proportion to the amount of property or income possessed. Again, the per cent. of tax may increase as the amount of property or income increases. In some states the rate per cent. on business license decreases as the amount of property increases. In many states certain amounts of property are exempt from taxation.

Indirect Taxation.

Tariffs.—A tariff is a tax levied upon goods imported into a country. These duties must be paid by the importer before he can take possession of the goods.

Tariffs are levied in two ways. A *specific duty* is calculated upon the quantity of the article regardless of its value. *Ad-valorem duties* are taken at a certain per cent. of the value of the commodity. There are advantages and disadvantages connected with each. It is easier to collect specific than ad-valorem duties, since it is less difficult to determine the quantity than the value of an article. Ad-valorem duties equalize the burden of taxation better than specific duties, since articles of the same volume may have very different values. Specific duties compel the poor, who must buy the cheaper articles, to pay as high tariff as the rich, who can afford to buy the higher-priced articles.

Excises.—This is a tax levied upon articles of home-production. The principal excise duties in the United States are levied on liquors and tobacco.

Some rules concerning taxation.

Four rules have been laid down as guides for equitable taxation: 1. Taxes should be levied in proportion to ability to pay. 2. The amount of taxes should be definite in order that those taxed

may plan to meet this obligation. 3. A convenient time and place should be fixed upon by the government for collecting the taxes. 4. Taxes should be collected at as small a cost as possible.

Steps in the process of direct taxation by the State.

The revenues raised by state authority for state, county, township, school, and municipal purposes are by direct taxation; and, that they may be equitably levied, so that each individual pays his proportion, it is important that a correct valuation of property be made.

Assessment.—That there may be made a correct valuation of all property within the government, assessors are elected, whose duties are to make an inventory, during a prescribed time, of all the taxable property within their respective localities. These lists of the property with the owners' names are turned over to the proper officials for the purpose of determining how much each man must pay.

Equalization.—It is evident that two pieces of property assessed for the same purpose by different assessors may not be appraised at the same relative values. This may arise from a lack of judgment on the part of the assessor, or from a difference in the standards adopted. One may adopt a basis of 40 per cent. and another of 50 per cent. To correct such differences in valuation, boards of equalization are appointed who compare the assessors' lists and reduce the valuation to a uniform basis. Any one not satisfied with the valuation of his property may appeal to the board of equalization and have his assessment reviewed. These boards are usually organized for city, township, county, and state equalization.

Levying taxes.—Another step, in determining how much tax each man must pay to the various governments under which he lives, is to ascertain how much revenue will be needed to support each government for the coming year. To ascertain the whole amount which will be needed, the proper officials make estimates of the expenses of the different departments of government. The school officers estimate the cost of running the schools under their control; the municipal authorities decide how much will be needed to pay the expenses of the municipality; the expense of running the township government is calculated by the people or their representatives; and the legislative bodies of the counties and the state will determine the amount to be raised for the use of their respective governments.

After the estimates and assessments are made the rate of taxation is determined by dividing the amount of taxes to be raised in any government by the total valuation of the property within that government. If a school district needs \$500 for

school purposes and the valuation of property within the district is \$25,000 the rate for school purposes will be two per cent. The amount of school tax which a man will pay in that district is determined by multiplying the valuation of his property by the rate. The same process is gone through in all the other governments, and the total tax which one will pay is the sum of the taxes collected by the different governments.

Collection of taxes.

Different states have different methods for collecting taxes. Sometimes the county treasurer collects all taxes, except for city purposes, and turns over to each government the amounts due. In some states there is elected in each township a collector who collects and remits to the proper officers.

That the taxes may be promptly paid, a rebate or discount is sometimes offered for payment before a certain date, and a fine imposed for delay after a specified time.

Federal taxation and other sources of revenue for governments will be considered in another paper.

I. M. BRIDGMAN.

POLO, ILL.

THE PSYCHOLOGY OF DESIRE APPLIED TO THE SCHOOL-ROOM.

Desire is an effort of the mind to bring about a state not present. It is a striving to realize what is not yet in the consciousness of the individual. It is a grasping after something, a looking ahead. It leads to action. It is the impulse to action. Desire implies a dissatisfaction with existing conditions and seeks to replace them by conditions which seem to be capable of giving greater satisfaction. A satisfied person would have no desires, consequently no motive for action, therefore would make no progress. Action is necessary for progress in any direction. Desire is at the foundation of action; hence, desire precedes progress. In school-work, progress, development, is what is aimed at for every child. We say too that effective action is the purpose of education. At the basis of all these we find desire. We conclude, then, that if the child is to do *any thing*, or to become *any thing*, he must have a desire for something.

What desires shall he have? Since we wish him to become the best kind of an individual, capable of the best action, he must have the best desires. We may separate the desires we would wish him to have into two classes,—those which relate only to himself, and those which include others. Among those desires which relate to himself alone, should be the desire to make the best of himself physically (*sensuous desires*) the desire to develop his mind as far

(intellectual desires). The desires which include others should come naturally along with the cultivation of the interests of participation (Herbart), and should make the child desirous of adding to the happiness and well-being of those in his own family, those whom he meets in his social relations, and indeed, all mankind. The implanting of these two classes of desires in the child's mind will lead to action which will make the best of himself in every way, and promote the welfare of others.

If these desires are the best, the question is, how to awaken them in the mind of the child. This is to be done by making the thing which is desirable seem desirable to him. He will not desire that of which he knows nothing. If we would have him desire a thing we must first make him thoroughly familiar with it, and then put it in such a light that it shall seem to him the best thing. Story work seems to be an admirable place for implanting good desires in the mind of the child. Here he sees clearly actions and their results, he observes what kinds of actions effect good results and *vice versa*, and because he desires in his life the best results he may be led to the best actions. Object lessons of this kind, the objects of study being the lives and acts of other people, will do much toward giving the child right desires.

Then his own mistakes may be made object lessons in the same way. If he sees that certain desires led to actions which brought to him unpleasant results, to avoid the repetition of such results, he may suppress those desires. Here is a suggestion in regard to discipline: When a child learns the relation between desire, action, and result, many desires which would lead him to wrong action, will be controlled. Then the teacher can do much toward substituting higher desires in the mind of the child, where before his desires were such as to carry him downward. By making the right way seem attractive, and also by making the wrong way unpleasant, she can make him desire to do that which will lead to the best result.

When a right desire is formed in the mind of the child, the teacher should give him, if possible, the opportunity to put it into action, so that a right habit in this regard is formed, and his desire is not left to become a mere wish. Although his desire to do the right thing may be very weak at first, and may relate to what would seem a small thing, an every-day affair of his school life, yet **giving out of such a desire will right direction,—a habit fit in later life.**

ABETH E. PERRY.

SCIENCE.

CONDUCTED BY CHARLES R. DRYER.

"By science I understand organized knowledge, working by method, based on evidence, and issuing in the discovery of law."—E. A. SONNENSCHEIN.

STUDIES IN INDIANA GEOGRAPHY.—VIII.

THE GENERAL GEOGRAPHY OF INDIANA.

CHARLES R. DRYER.

POSITION AND BOUNDARY.

Indiana is one of the North Central states, situated in what is sometimes called the Middle West, between the upper Great Lakes and the Ohio, and mostly in the Mississippi basin. The central parallel of the United States, the 39th, crosses its southern third and it is included between 37° 41' and 41° 46' north latitude, and between 84° 44' and 88° 6' west longitude. It is bounded on the north by the parallel which is ten miles north of the southern extremity of Lake Michigan; on the east by the meridian of the mouth of the Great Miami river; on the south by the Ohio; and on the west by the Wabash river and the meridian of Vincennes. Its extreme length is 250 miles, its average width 145 miles, its area 36,350 square miles.

ELEVATION.

According to Powell's division of the United States into physiographic regions,* Indiana lies mostly on the Ice Plains, but includes a small portion of the Lake Plains on the north, and of the Alleghany Plateau on the southeast. The highest land in the state, in southern Randolph county, is 1,285 feet above tide; the lowest, at the southwest corner, is 313 feet. The area above 1,000 feet comprises 2,850 square miles in three tracts: (1) an irregular area around the headwaters of the Whitewater river in Union, Wayne, Randolph, Delaware, Henry, Rush, Decatur, Franklin and Ripley counties; (2) a narrow, crescentic ridge in Brown county; (3) a considerable area in Steuben, DeKalb, Noble and LaGrange counties. Isolated peak-rise in Brown county to 1,172 feet, and in Steuben to 1,200 feet. The area between 500 and 1,000 feet in elevation is 28,800 square miles, and that below 500 feet is 4,700 square miles. The average elevation of the state is 700 feet.

GEOLOGICAL STRUCTURE.

The rocks of Indiana are all sedimentary and

National Geographic Monographs, No. 3.

consist of a series of shales, sandstones and limestones laid down upon the bed of a shallow ocean off the shore of a land area which lay to the eastward. These strata are shown by borings to be more than 3,000 feet thick. They have never been compressed, folded, or violently disturbed; but have been gently lifted into a very flat arch, the crest of which extends from Union county to Lake county. From the crest of the arch the strata dip gently to the northeast and southwest, the slope in the latter direction being about twenty feet to the mile.* The oldest rocks exposed are the Hudson river shales, in the southeast; the youngest are the Carboniferous, along the west side.

PHYSICAL HISTORY.

Indiana has been a land surface since the close of the coal period. Subjected during those millions of years to weather and stream erosion, it was maturely dissected into a complex network of valleys, inter-stream ridges, and isolated buttes. Over this surface the great Laurentide glacier repeatedly passed, extending once as far as the glacial boundary shown on the map, and again to the "Wisconsin" boundary.† Its effect was to grind down and smooth off the hills, to fill up the valleys, and to leave the surface plastered over with a great mass of loose material, much of which was brought from northern regions. Since the final disappearance of the ice the streams have partially cleared out a few of the old valleys and have begun to cut a system of new ones in the surface of the drift, but this cycle of erosion is still in its infancy. Thus, the greater part of Indiana is a plain of glacial accumulation, of very recent origin, and too young to have developed more than rudimentary features.

PHYSIOGRAPHIC REGIONS.

The most striking physical contrast in Indiana is that between the glaciated and unglaciated areas. A comparison of the topographic map with that showing the revised glacial boundary brings out this contrast sharply. North of the limit of drift the contour lines‡ run in large curves and are far

*See the excellent sections of Professor Cribberly, showing the structural features of Indiana, in 18th Report of State Geologist, p. 219.

†See INLAND EDUCATOR, Vol. III., p. 25.

‡Contour lines are lines of equal elevation which run across the country, each everywhere at the same height above the sea. The shore of the ocean is the basal contour line, and if the sea level should rise a hundred feet it would mark a new contour line at that level. Where contour lines are far apart the slopes are gentle and the surface comparatively smooth; where they are close together the slopes are steep and the surface rough and broken. The contour lines on the topographic map of Indiana are general and approximate only. Fuller and more accurate surveys are necessary before they can be drawn with exactness and accuracy.

apart, showing the general smoothness and monotony of the surface. South of the glacial boundary the lines are crowded and extremely tortuous, showing a surface much cut up. The limit of drift encloses and fits this area of broken surface as a man's coat fits his shoulders.

The Ohio Slope.—That portion of the state which slopes directly to the Ohio, including the driftless area and the southeastern part of the drift plain, is a region of deep, narrow valleys, bounded by precipitous bluffs, and separated by sharp, irregular divides. Isolated knobs and buttes are numerous; the crests and summits are from 300 to 500 feet above the valley bottoms. The streams are rapid and broken by frequent cataracts. All open out into the Ohio Valley, a trench from one to six miles wide, 400 feet deep and bounded by steep bluffs.

The Central Plain.—North of an irregular line extending in a general direction from Richmond to Terre Haute, and south of the westward flowing portion of the Wabash from Fort Wayne to Attica, the topography is that of an almost featureless drift plain. It is traversed by numerous morainic ridges, but they are low and inconspicuous. The traveler may ride upon the railway train for hours without seeing a greater elevation than a hay stack or a pile of saw dust. The divides are flat and sometimes swampy, the streams muddy and sluggish. The valleys begin on the uplands, as scarcely perceptible grooves in the compact boulder clay, widen much more rapidly than they deepen, and seldom reach down to the rock floor.

The Northern Plain.—The portion of the drift plain north of the Wabash river is more varied than the Central Plain, and comprises several regions which differ materially in character. A small area around the head of Lake Michigan is occupied by sand ridges and dunes, partly due to a former extension of the lake and partly to present wind action. Some of the drifting dunes are more than 100 feet high. This region is separated by a belt of morainic hills from the *basin of the Kankakee*, which contains the most extensive marshes and prairies in the state. This region also is traversed by numerous low ridges of sand, the origin and character of which are not yet well understood. Many of its features are probably due to the fact that during the retreat of the ice-sheet it was temporarily occupied by a glacial lake, which received the wash from the high moraines to the eastward. Northeastern Indiana is the region of high moraines, and has a strongly marked character of its own. A massive ridge of drift, twenty-five miles wide, 100 miles long, and from 300-500 feet thick, extends from Star and is joined by the

Northwest. This is the joint moraine of the Erie and Saginaw lobes of the Laurentide glacier. Much of its surface is extremely irregular, presenting a succession of rounded domes, conical peaks, and winding ridges, with hollows of corresponding shape between, which are occupied by innumerable lakes and marshes; the highest points are 100-300 feet above the level intermorainic intervals. A large proportion of the material is sand and gravel. A small area in eastern Allen county is a part of the bed of the glacial Maumee Lake.

DRAINAGE.

The general slope of Indiana is to the southwest, as indicated by the course of the Wabash river and its tributaries, which drain two-thirds of the state. Of the remaining third, one-half is drained directly to the Ohio and one-half to Lakes Erie and Michigan, and to the Mississippi through the Illinois.

The Wabash River is the great artery of Indiana, which it traverses for more than 400 miles. The fall is quite uniformly about eighteen inches per mile. Its current is gentle and unbroken by notable rapids or falls. Its valley is quite varied in character. Above Huntington it is a young valley, without bluffs, terraces or flood plain. Below Huntington, it once carried the drainage of the upper Maumee basin, and is nowhere less than a mile wide as far down as Attica. Below that point its width varies from two to six miles. The original valley has been largely filled with drift, which the present river has been unable to clear out. It winds between extensive terraces of gravel, which border it at various elevations, and flows at a level from fifty to one hundred feet above the original rock floor. Below Terre Haute, the wide flood plain, ox-bow bends and bayous give it a character similar to that of the lower Mississippi. The upper tributaries as far down as Lafayette are post-glacial streams in drift valleys, whose courses are largely determined by the trend of the moraines. Below that point the smaller tributaries enter the river through picturesque sandstone gorges.*

White River, the largest tributary of the Wabash and rivaling it in volume of discharge, is a much more varied and complex stream. The larger West Fork rises at the summit level of the state in Randolph county. In its upper course it is moraine-

**Note on the Wabash River.*—The outline for Township Institute Work for 1896-7 called for an essay on the Wabash river, and several thousand teachers discovered that very little is known about the Wabash, and that little is so scattered as to be unavailable. It would be much easier to learn the facts about the Nile, Ganges or Danube. Any one who will make a careful study of any portion of the Wabash and contribute a report, with maps, to the public press will make a valuable

**Attention to geographic science.*



guided, like the upper tributaries of the Wabash, and presents the same characters as the other streams of the central plain. In Morgan county it assumes a different aspect, and thence to its mouth flows through a valley from one to three miles wide, 100 to 300 feet deep, bordered by wide bottoms. The East Fork rises on the same elevation as the West, but reaches its destination by a more tortuous course. Although its length is increased and its slope decreased by its numerous meanders, it is still a swift stream. Both forks of White river suffered many disturbances during the glacial period, which have not yet been studied in detail, but are obvious from the varying character of their valleys and from the terraces which border them at all heights up to 300 feet.

The *Whitewater River*, takes the shortest course of all from the summit level to the Ohio, and its average fall is about seven feet to the mile. At Richmond it has cut a narrow gorge into the soft shales 100 feet deep. In strongest contrast with this and the other rivers of the Ohio slope is the *Kankakee*, which winds through wide marshes with a scarcely perceptible current, and without definite banks. Its basin, however, is sufficiently elevated to render good drainage possible by the construction of the requisite ditches, and much has already been done to that end.

PHYSIOGRAPHIC FEATURES.

Many important land forms are wanting in Indiana. There are no mountains, no valleys formed by upheaval or subsidence, no volcanoes or volcanic rocks except foreign fragments brought by the ice-sheet, no features due to disturbance of the earth crust except the rock foundations of the state itself.

Plains.—As already indicated, the greater part of Indiana is a *plain of accumulation*; the surface of a sheet of glacial drift which varies in thickness from a few feet to 500 or more. The average thickness is more than 100 feet. It consists chiefly of a mass of clay containing more or less gravel or boulders—the *till* or boulder clay of the geologists. This is locally varied by heaps, ridges, sheets and pockets of sand and gravel, and in the southern part of the state is overlain by a peculiar fine silt called *loess*. The boulder clay is the grist of the glacial mill, and is composed of a very intimate and heterogeneous mixture of native and foreign materials, containing fragments of almost every known mineral and rock. The large fragments, or boulders, are widely distributed, and of every size up to thirty feet in diameter. They are nearly all igneous or metamorphic in character and can be traced back to their origin in the Canadian highlands north of the Great Lakes.

The driftless area is a *plain of degradation*, formed

by the removal of the original rock surface to an unknown depth, and now represented by the summits of the flat and even-topped divides, ridges and hills.

Hills.—On the Northern Plain occur numerous *hills of accumulation* forming the great morainic belts, the result of excessive dumping and heaping up of drift along the margins and between the lobes of the melting ice-sheet. The most impressive examples are found in Steuben, La Grange, Noble and Kosciusko counties, where they attain a height of 200 feet or more, and are as steep and sharp as the materials will lie. Their peculiar forms and tumultuous arrangement give a striking and picturesque character to the landscape.

The Ohio Slope is studded all over with *hills of degradation*—blocks and fragments of the original plain left by the cutting out of the valleys between them. Some are broad and flat-topped, some narrow, crooked and level-crested, some sharp or rounded, isolated knobs or buttes. These are very conspicuous in the counties of Greene, Daviess, Martin, Crawford, Orange, Washington and Jackson but attain their greatest development in Floyd, Clarke, and Scott where the Silver Hills and Guinea Hills rise to 400 and 500 feet above the valley bottoms. In Brown county the knob topography attains the highest absolute elevation in Weed Patch Hill, and the surrounding region is so rugged as to have gained the title of the "Switzerland of Indiana."

In Benton county, Mounts Nebo and Gilboa are isolated masses of rock projecting above the general level of the plain, and are probably entitled to the name of *monadnocks*.

Moraines.—In addition to the massive and rugged moraine belts already described, there are many morainic ridges of gentle slope and smooth profile, "like dead waves upon the surface of the ocean," conspicuous only upon the map by their influence upon streams. Those which extend along the right banks of the St. Mary's, upper Wabash, Salamonie, Mississinewa, and upper White rivers are typical examples. The southernmost moraine in the state, which enters Vigo, Vermillion and Parke counties from Illinois, is composed largely of a series of broad, low mounds, irregularly disposed upon the plain. In this connection should be mentioned the form of moraine known as *boulder belts*—long, narrow, curving strips of country thickly covered with large boulders. These occur in the counties of Jasper, Newton, Benton, Warren, Tippecanoe, Boone, Clinton, Johnson, Shelby, Rush, Hamilton, Whitley and Huntington.

Kames and Eskers.—
and gravel laid
which flowed

sheet. Kames are irregular ridges and mounds, having a general direction at right angles to the direction of ice movement, and are found in connection with the massive moraines. Eskers, or "serpent kames," are long, winding ridges of sand and gravel, parallel to the direction of ice movement, and generally extending down a valley of glacial drainage. They mark the course of streams which flowed in sub-glacial tunnels. The valley of Turkey creek, in southwestern Noble county, the Erie-Wabash channel southwest from Fort Wayne, and the whole course of the "Collett Glacial River," from Delaware and Madison to Decatur and Bartholomew counties present numerous examples. There are probably many more in the state still unreported.

Closely related to these are *sand and gravel streams, plains and overwash aprons*, in which the material is spread out over broader areas. Northern Steuben, northwestern Whitley and central Bartholomew counties contain good examples, a few out of a probably large number in the state.

Dunes and Beach Ridges.—These are hills and ridges of sand or gravel, either blown up by the wind, or built up by the waves along the shores of lakes now withdrawn. The region around the head of Lake Michigan, the Kankakee basin, and the Maumee Lake basin east of Fort Wayne afford fields for more extensive study of these forms.

Valleys.—As before stated, all the valleys of Indiana are the result of stream erosion; most of them by the streams which now occupy them. During the glacial period, however, the streams generally carried much more water than at present.

Gorges, ravines and canyons, are deep, narrow valleys with precipitous walls. They exist in great number and variety throughout the Ohio Slope, occurring along the Whitewater, White and Ohio rivers, and all their tributaries. The eastern tributaries of the Wabash in Fountain and Parke counties flow through very beautiful canyons cut in massive sandstone, often with overhanging walls which, at "The Shades of Death," reach a height of 250 feet.

In valleys of this character *rapids and falls* are very numerous. They occur upon nearly every stream emptying into the Ohio, and vary in height from a few feet to sixty or eighty. Clifty Falls in Jefferson county and Cataract in Owen county are among the most famous.

All the streams flowing from the glaciated area, have had their valleys flooded with glacial waters, and choked with glacial debris. The effects of this are shown by the extensive *terraces* of sand and gravel which border their present channels, and mark the heights at which they were once

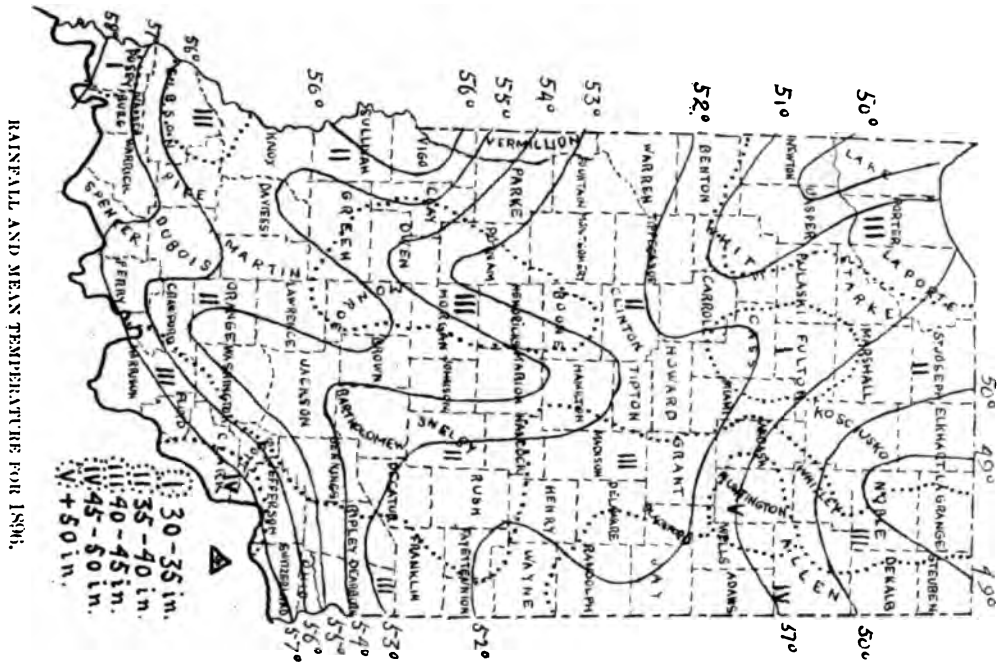
able to deposit sediment. Between these terraces there are often broad "bottoms" or *flood plains* which furnish the best corn lands in the world.

Glacial Drainage Channels.—During the melting of the ice-sheet the waters found escape by numerous channels which are not now occupied by any large or continuous stream. A very notable one is the Erie-Wabash channel, which carried the waters of the glacial Maumee lake from Fort Wayne into the Wabash at Huntington. The largest in the state gathered the water from numerous channels in Jay, Grant, Blackford, Randolph, Delaware, Madison and Henry counties into one great stream, which flowed southward through Hancock, Shelby, Bartholomew, Jennings, Jackson, Scott and Clark to the Ohio at Jeffersonville. In its middle course its valley is forty miles wide and 400 feet deep, narrowing to five miles near its mouth. It has been named the "Collett Glacial River."

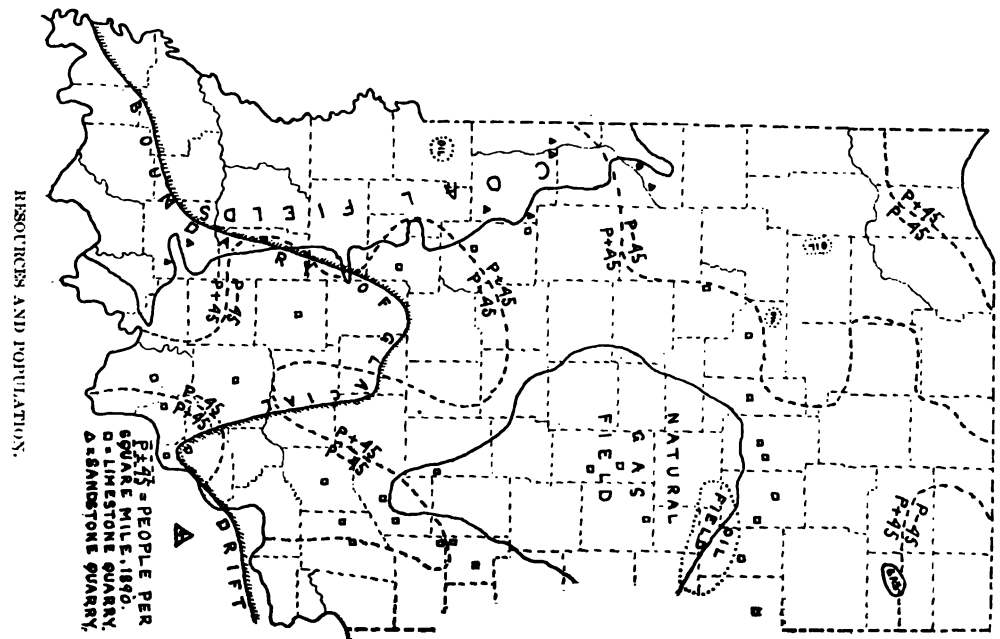
Lakes.—The surface of the Northern Plain is peppered all over with small lakes which occupy irregular depressions in the surface of the drift, and are especially characteristic of the massive moraines. The whole number cannot be less than 1,000. The largest, Turkey Lake in Kosciusko county, has an area of five and a half square miles.

Marshes and Swamps.—These exceed the lakes in number and extent. The smaller ones are the basins of former lakes which have been filled up with sediment and vegetation. The largest are in the Kankakee basin, and are the remaining vestiges of a glacial lake. Everywhere over the Central Plain the divides are too flat and the slopes too gentle for good drainage, and marshes abound. These, however, have been largely drained by ditches.

Sinkholes and Caves.—Extending from Harrison, Crawford and Clarke counties to Putnam is a belt of limestone which is honey-combed by underground streams producing a great variety of sinkholes, caves and "lost rivers." The sinkholes are basin-like depressions ten to fifty feet deep, and thirty to three hundred feet in diameter, with an opening at the center which leads to some underground passage. In some cases a stream drops into this hole out of sight and emerges again upon the surface many miles away. If the opening has become clogged the basin holds a pool of clear water. Many of the underground passages have been wholly or partially abandoned by the streams which made them, and can be followed great distances. Wyandotte Cave in Crawford county has been explored a distance of twenty-three miles, and rivals in extent and beauty the Mammoth Cave of Kentucky. In Harrison county the rock



RAINFALL AND MEAN TEMPERATURE FOR 1890.



RESOURCES AND POPULATION.

is so secured as to render wells uncertain. This country contains Ripperden, Harrison and Grassy valleys, which are closed amphitheatres of three to ten square miles in area and 200 to 400 feet deep, and formed by the falling-in of the roof of subterranean caverns.

CLIMATE AND VEGETATION.

The map shows the rainfall and mean temperature for 1880, which was very nearly a normal year. The mean temperature for January varies from 25° in the north to 35° in the south, for July from 72° to 77°. The absolute extremes of temperature for the state and year are 100° and -22°. The number of days in the year with average temperature below freezing is ninety in the north and twenty in the south. The changes of temperature are frequent except in summer, when a period of two or three months of uniformly warm, clear weather often occurs. The mean rainfall is quite variable from year to year, ranges from thirty-five inches in the north to forty-five in the south, and is well distributed throughout the year with a slight excess in spring. The average annual snowfall in the north is forty inches, in the south fifteen. The prevailing winds are from the southwest, and the average wind velocity seven to nine miles per hour. Thunderstorms and tornadoes are frequent.

Contrary to the statements made in many books, Indiana is not a prairie state. An area estimated to comprise one-eighth of the whole situated, except a few isolated patches, in the northwestern part is marsh and upland prairie. The remainder of the state was originally covered by a heavy growth of oak, walnut, beech, maple and other hardwood timber, with sycamore and poplar near the streams, and a little pine along the Ohio slope. No region in the United States could show finer specimens, or a greater number of individuals and species of forest trees than the lower Wabash valley. The same region is said to be the original habitat of the bluegrass which has made Indiana and Kentucky pastures so famous.

RESOURCES.

Mineral.—As shown upon the map, an area in the southwestern part of the state, comprising 7,000 square miles, is underlain by numerous seams of bituminous and block coal, which is mined to the extent of four million tons yearly. The natural gas field in the East Central part, an area of 2,500 square miles, furnishes gas to the value of \$1,500,000 annually, which is used by numerous manufacturers in the field, and is piped to all the neighboring cities and to Chicago. Indiana is second only to Pennsylvania as a gas-producing state. On the northern border of the

gas field is a small but rich and growing petroleum field. A narrow belt extending from Washington to Putnam county furnishes the best limestone in the world for building purposes. Clays and shales, suitable for brick and tile making, occur in nearly every county. Lawrence, Martin and Owen counties contain deposits of kaolin of sufficiently high grade for the manufacture of fine pottery. Floyd and Parke counties furnish a good quality of glass-sand.

Industry.—Agriculture has been, and probably will always remain, the foundation of Indiana's prosperity. The glacial drift is a very productive and permanent soil, especially for the cereal grains. The level tracts of boulder clay require underdraining to obtain the best results. The alluvial soils of the bottoms and terraces along the larger streams cannot be surpassed for corn production. The bluffs, knobs and hills of the driftless area along the Ohio have been found favorable for the growing of apples, peaches, grapes and other fruits. The marshes of the Northern Plain, when properly drained, yield large crops of hay, corn and celery. Although among the states Indiana ranks thirty-fourth in area, she was in 1880 seventh in the production of cereals and of corn, and fourth in the production of wheat.

SETTLEMENT AND POPULATION.

Settlement from the Middle and Southern states began along the Ohio early in the present century and extended northward. Forty years later a stream of New England and New York people came into the northern part. The total population in 1890 was 2,192,404, of which only eighteen per cent. live in cities, and less than seven per cent. are foreign-born—chiefly German. The map shows how closely the distribution of population corresponds to physical conditions, the areas of relatively sparse population including 1. most of the driftless area and the rugged and broken region of the Ohio slope, except the coal fields and best fruit-growing region; 2. the prairies and marshes of the Kankakee basin, and 3. the roughest portion of the high moraine in the northeast. The influence of Chicago is shown in the northwest corner by the presence of a denser population in a region physically unfavorable. A closer analysis would probably show an area of excess in the manufacturing districts of the gas field.

I thank my Lord, who safe has kept
My soul and body while I slept.
Now keep me, Lord, through this new day,
And lead me in thine own good way:
For this in Jesus' name I pray.

—The Oa

NATURE STUDY.

THE ADDER'S-TONGUE.



ADDER'S-TONGUE.

Drawing by E. W. Putnam.

One of the most trustworthy and omnipresent assurances that winter's reign is broken is the multitude of pied ovate leaflets which thrust forth in woodlands, sometimes even piercing through the dead leaves that so recently served them as storm-cloaks, in their eagerness to seek the light. The potency of a few warm sunny days in evolving leaf and flower from the midst of apparent lifelessness savors scarcely less of magic than that attributed to the bean-stalk, famous in juvenile classics.

In reality, however, the sudden spontaneous outburst is but the culmination of a work that has been for many moons in progress,—the existence of which was unsuspected because of its subterranean nature.

Elaborate preparation, care, and precision are characteristic elements of nature's handiwork. Very little if any of it is done hastily. It takes but a short time of sunshine to call forth the pussy-willows by the brookside; but add to this the elaborate preparation of last year, that everything might be in readiness for the eventful time. In less than a week a whole forest may be clothed in living green; but the work of autumn was not reckoned complete until each leaf that now flutters in the breeze was formed in miniature and snugly encased in a storm-proof covering. And had we delved deep in the soil on some November day, we should have found the saucy adder's-tongues which now beset our pathway squeezed, leaf and blossom, into the gloomy and contracted apartment of a small brownish bulb.

Morphologically, the latter is not a root but a subterranean stem, the scales being modified leaves which serve as a store-house for the plant's food. The true roots are fibrous and issue from its base, the depth at which the bulbs are found varies largely with their size,—corresponding nearly to the height of the plant. A question of how the depth, has been ascertained seems to

have been found by Frederick H. Blodgett, who records his observations in the *Botanical Gazette*.^{*} He found that in spring the bulbs send out runners terminating in bulb-like thickenings. "The runners start from the bottom of the bulb, but vary both in length and direction of growth, being from two to nine inches long, and ranging from perpendicular to nearly, or quite, horizontal. As the supply of nourishment in the parent bulb is exhausted, the tip of the runner thickens into a secondary bulb, which sends out rootlets from the upper part and then the runner is absorbed, leaving, in the cases examined, nothing but a dry and empty husk of the parent bulb and runner. These secondary bulbs later in the season lose their fleshy rootlets from the upper part of the bulb and send out the fibrous ones from the base." Thus, the young bulb starts anew in a new location, which may be quite a little farther from the surface than that of the previous year. It is notable that a maximum depth is reached at maturity, after which the parent bulb never sends out runners but contents itself with offshoots at its side.

Its monocotyledonous origin is at once betrayed in the seedling, and never until a flower stem is ready to emerge does the adder's-tongue indulge in the luxury of a pair of leaves. They are borne opposite, parallel-veined and of equal length, though one is nearly twice as wide as the other. Very handsome they are in their shiny coat of green and brown, the effect of which is heightened by occasional touches of purple or silver. But alas! The royal livery lacks permanency; the hot sun soon causes the bright colors to grow dim; before its continued rays the gay hues vanish into a dull green, varied only by blotches still more faded; and ere the fruit has fully matured the foliage turns yellow, droops, and soon withers away leaving no trace of its former existence.

This is a fair illustration of the *pattern flower*, possessing the characteristics of being symmetrical, regular, and complete, and nearly free from the cohesions and adhesions which sometimes obscure the general plan by their complications.

A flower is but a modified branch; and in *Erythronium Americanum*, the species under consideration, are five whorls of altered leaves, arranged in threes. The outer triplet are known as *scales*, and are yellow within but strongly marked with reddish brown on the back; they are the only members visible in the bud. The second row, the *petals*, are slightly wider, of a bright yellow color save for the midrib and reddish dots more or less frequent at base, and have a nectariferous central groove and auricled base. These two whorls constitute the *perianth*. With the next two rows

^{*} Bot. Gaz., 19: 2 and 20: 4.

comes an illustration of adnation, each stamen being slightly attached at its base to the corresponding division of the perianth. The anthers are usually brown though yellow ones are not uncommon; the cause and consequences of this variation have not thus far been explained. The solitary style is an instance of cohesion rather than a direct deviation from the ternary plan; for the three-chambered ovary and corresponding ridges on the club-shaped stigma clearly betray its three-fold nature. In some individual blossoms the pistil exceeds the stamens in length; in others it is shorter. Thus, the principle of dimorphism, so prominent in the partridge-berry and trailing arbutus, is also resorted to here as a means of securing cross-fertilization.

The question has been asked, why the generic name, *Erythronium*? It is from a Greek word for red—according to Wood, “the color of some species.” The reddish tints often shown on both flower and stem render it not wholly inappropriate to our own *E. Americanum*.

More just is the criticism upon the popular names, “adder’s-tongue” and “dog’s tooth violet.” “If the markings of its leaves resemble the skin of an adder,” says Mrs. Dana in *How to Know the Wild Flowers*, “Why name it after its tongue? And there is equally little reason for calling a lily a violet. Mr. Burroughs has suggested two pretty and significant names, ‘fawn lily,’ he thinks would be appropriate because a fawn is also mottled, and because the two leaves stand up with the alert, startled look of a fawn’s ears. The speckled foliage and perhaps its flowering season are indicated by the title ‘trout lily,’ which has a spring-like flavor not without charm.”

It frequents moist woods and thickets, with a range extended from Nova Scotia to Ontario and Minnesota; south to Florida, Missouri and Arkansas, “reaching in Virginia,” says Dr. N. L. Britton, “a height of 5,500 feet.”

Compare the two common species of *Erythronium*, *E. Americanum* and *E. albidum*, noting points of similarity—of difference. Compare with other members of the lily family. How does attachment of anther to filament differ from that of true lily? Is the perianth of practical utility? (Probable influence upon insects. Position during rain.)

BESSIE L. PUTNAM.

HARMONSBURG, PENN.

NATURE STUDY IN ELEMENTARY SCHOOLS.

PART ONE.

Nature study properly pursued is bound to work a revolution in general education. It is a study of things and not a study of books. It is a

search for the eternal truth through rocks and soils and winds and clouds and streams and organisms and bones and cells and the forces that make things move and grow and die, and not through books and talks and pictures.

No myths are found in nature. There, if we can find it, is the pure, unvarnished truth. To institute a search after this truth is the purpose of nature study.

WHAT ARE THE ADVANTAGES OF NATURE STUDY?

Incidentally it cultivates the power of observation, gratifies the child’s curiosity, makes friends of the child and the teacher, and improves the child’s language. Directly it makes geography and physiology less of book studies, and gives us real knowledge about nature.

By observation we mean scientific observation; i. e., repeated observations on the same thing or related things. We must become acquainted with the weather by repeated and regular observations before we are able to make a reasonable guess about the weather of to-morrow. We must watch birds for a whole year, or for several years, if we learn anything of the migration of birds from observation.

We must see the little caterpillar come out of the egg, then eat and grow and moult, and eat and grow and moult, and eat and grow and moult, and change to a pupa, and then see the butterfly come out of the pupa case, before we can say that we have learned by observation what is meant by the different stages in the life history of the butterfly.

By scientific observation we learn to look at a thing in such a way as to see what there is to see; to see the cause in the effect; to see the general in the particular; to see the simple in the complex; to see the structure beneath the surface; to see, in the growing organism, its antecedent and subsequent stages.

By observation all the senses have a chance to inform the mind. We can distinguish birds by their songs. We can distinguish a quartz pebble from a limestone pebble by the touch. The harder and more compact is the smoother. Frequently, the lower senses are accessory to the higher. When we study nature indirectly, i. e., through books and the teacher, the lower senses play only in the imagination; and the higher senses convey only the written and spoken words, that represent the real thing, and stand between the real thing and the mind. Lustre, hardness, and how the rock feels enable us to know talc. Lustre, hardness, and the odor of the moistened rock help us to tell serpentine. The more subjective sensations seem nearer to the soul and

make more enduring impressions. Give the child a chance to exercise them, in an educational way.

Nature-study gratifies the child's curiosity. He is anxious to know something about flowers and birds and rocks. Children love nature more than do grown people. Too many of us have had this love educated out of us. All of us, when children, loaded our pockets with shells, pretty pebbles, and fossils; chased butterflies and climbed trees to peep into birds' nests. We admired the colors in the sky and wondered what the clouds were made of. We stole noiselessly to the pond to see the bird that was whistling so lustily, and were surprised to see that the bird was a frog. We learned how the crawfish cares for its eggs and young. We learned that the mud wasp puts spiders into its mud nest. We learned that ants associate with plant lice. And we learned a thousand other things, but all of little value, because isolated. We needed a little direction in order to catch the cause or purpose or distinguishing characteristics. We lost interest and never became able to read the scraps of earth history recorded in the smooth pebble, or the sharp sand, or the variegated conglomerate, or the laminated rock, or the shell limestone.

Now as teachers we propose to come down from the scholastic throne of the historical schoolmaster and meet the children on their own ground, and help them in a study in which they are already engaged. Go into any school and announce that you will begin the study of rocks to-morrow, and that you will begin with pebbles. Some of the children, you will find, have been studying rocks and have made interesting collections. Some have them classified, in a way,—quartz pebbles in one box they call these "luck-stones,"—coral pebbles in another box, they may call these "mad-stones." Perhaps they have been correlating their nature-study with myths. Anyhow, they feel that there is much to learn about rocks, if they knew how to get at it. You now join them and help them to distinguish hardness, lustre, and smoothness, and to detect any trace of organic structure as of corals and shells. You are the very person that these children have been wanting. You have come to them in their "nature study," and they will come to you in your arithmetic and grammar and history. When Saturday morning comes there will be a crowd of children at your gate wanting to go with you to hunt rocks.

You can not drive a boy, but he can drive himself; and he will do it, if he is interested in the operation—if he is working in the line of his curiosity. One to whom the school-house has been prison, now delights to make reports on the things that he has seen and to bring the bones and

that he has found. He and the teacher are now friends. He has found a bond between the woods and the school-house. Have we any boys like the youngest Bonivard? The "Prisoner of Chillon" says:

"My brother's soul was of that mould
Which in a palace had grown cold,
Had his free breathing been denied
The range of the steep mountain side."

I have seen such. One boy showed by his face and every action that he had no sympathy with anything in the school. He was stubborn and sullen. On the introduction of bird study, he took hold of the work with intense interest, and soon took rank with the best in the room in other studies. Another, who stayed out of school whenever he pleased, proved a good collector of bones and teeth, and became one of the most punctual in attendance. Nature study makes friends of the child and teacher, in many cases, where everything else fails. This friendship is the first condition of moral growth through the influence of the school.

Nature study improves the child's language in a way that text-books and literature can not do. If he talks and writes about things that he has read, it is hard for him to think in his own words. If he talks and writes about things that he has observed, he is compelled to draw from his own vocabulary. If he has been doing good work in nature study he is anxious to describe things that he has observed, and about which he has a curiosity to know something more; e. g., I am calling in my school for bird reports. One boy says, "I think I saw the little brown creeper this morning." What kind of looking bird was it, and how did it act? He says, "It was a little bird, about as large as a chipping-sparrow. It was brown above and white below. It went creeping up the side of a tree, and then flew down to the root of another tree and began to creep up that tree, too." You are right; your bird was the little brown creeper. Another boy rises and, taking a notebook from his pocket, says, "I saw a bird, Saturday, and didn't know what kind it was. (Referring to his book). It was black on the back, had a black head, had red on the sides and some white on the tail. I think the under part was white. It was nearly as big as a robbin. I saw three,—one was in a brush pile, the others were on the ground in the bushes, scratching among the leaves. I got close to them." Your bird was the **chewink**. It likes the bushes, briars and brush piles.

the school; i. e., follow the
it has been praised and
for a written descrip-

tion. The work is forced and unnatural and the school gains little or nothing from the exercise. The description of the bird, an actual case as given above, was written in the woods and occasioned by the boy's desire to know what kind of a bird he saw. There was nothing forced in this description. There was real thought and a desire to express it, so as to be understood.

The advantages of Nature Study in geography may be illustrated by a few examples. If we watch the development of the mulberry from the flowers, we see that the so-called berry is a cluster of little fruits, and that each little fruit was made by a little flower. An elongated close cluster of flowers made an elongated close cluster of fruits. The little fruits are attached to the central pulpy axis, or elongated receptacle. The whole is in common language called the fruit. Let us study, in the same way, the flowers and fruit of the common hedge plant, or osage-orange. The cluster of flowers is a ball and the resulting fruit is a ball. Each little flower made a little fruit. These little fruits, shaped something like shoepegs, are compactly crowded upon a central globular receptacle. The whole makes the so-called fruit. The hedge plant belongs to the mulberry family. The mulberry and hedge-apple are fruits essentially alike. Now to the purpose: the breadfruit of the tropics belongs to the mulberry family. Turn, in the *Encyclopedia Britannica*, to the article on Botany and see the fine plate of the breadfruit tree. The resemblance of the fruit to that of the osage-orange is very striking. In the same work turn to the article on breadfruit and read: "Flowers in a dense head, which by consolidation of their fleshy carpels and receptacles form the fruit. The fruit is globular in shape, about the size of a melon, with a tuberculated or (in some varieties) nearly smooth surface." The only real difference between the breadfruit and the fruit of the osage-orange is, one is edible and the other is not.

How shall we teach the circulation of water from the ocean into the air, over the continents, down as rain or snow, and in the rivers back into the ocean again? Shall we do it by a little story, or poem, about the little drops of water journeying in a carriage of cloud, until the carriage breaks and all come tumbling down? No. Let us go straight at it. Study water, its forms and changes, until we get some real knowledge of these things, if it takes two or three years. And observe the changing conditions of atmosphere, as to moisture, temperature and direction of wind, with their relations to rain fall. What are we ready to do now? Well, we are able, almost, to see this circulation. Here are the weather notes for Thanksgiving week:

Monday, Nov. 23,	8 A. M.	Wind S.	Cloudy.
	8 P. M.	" "	" "
Tuesday, Nov. 24,	8 A. M.	" "	" "
	8 P. M.	" S. E.	" "
Wednesday Nov. 25,	8 A. M.	" S.	" "
	8 P. M.	" S. E.	" "
Thursday, Nov. 26,	8 A. M.	" S.	" "
	8 P. M.	" "	" "
Friday, Nov. 27,	8 A. M.	" S. W.	" "
	8 P. M.	" W.	Raining.

We had four days,—Monday, Tuesday, Wednesday and Thursday, with a continuous S. to S. E. wind, and cloudy weather with little or no rain. We could feel that the air was damp and we could reason that the moisture was coming from the Gulf and adjacent parts of the Atlantic. But where was all this moisture going? We had clouds, but they did not grow thick enough to rain until Friday night. Most of this moisture must have been carried far beyond our region. On Saturday morning we see in the *Indianapolis Journal* that a great blizzard has been raging in the Northwestern States. Here are some of the telegrams dated, Friday, Nov. 27:

"Red Lake Falls, Minn.—Worst blizzard this section ever saw."

"Fergus Falls, Minn.—Heavy storm still raging."

"Moorhead, Minn.—Raging blizzard since yesterday morning. Streets blocked. No trains, and business at a stand still."

"Fargo, N. D.—The storm still continues with even greater intensity. * * * The snow drifts in the streets here are ten feet high. It is the worst storm for years."

"Langdon, N. D.—The worst blizzard ever known in this country raged yesterday and to-day. The snow is piled in drifts as high as the houses."

"Williston, S. D.—It has snowed incessantly since Tuesday evening."

It may not be far out of the way for us to suppose that the very moisture that we felt in our faces came down in Minnesota and the Dakotas as snow. It pays to have the school always keep up their weather notes in order to be ready for the opportunity of such a lesson.

In the State Board Questions for September we find this one:

"Why should the tendency of migration in the United States be northwestwardly?" Answering from the standpoint of weather study, we would say: Migration takes the back track of eddying storms, in order to keep in a moist climate.

W. P. SHANNON.

GREENSBURG, IND.

NATURE STUDY FOR THE SPRING MONTHS.

(Continued from April Number.)

Before continuing the outline of the study of the bean, an example of what has been done by children in the previous study may be suggestive. The following is a reproduction made in the fourth grade. The children were guided by questions in making the reproduction, but each statement was written on the board in exactly the words which they gave:

THE BEAN SEED.

The bean grows in our gardens. The plant is about a foot high, and the beans grow in pods upon it. We use the beans for food because they contain so much nourishment. If we plant the bean seed it will make a new plant.

My bean is about one-half inch long and one-fourth inch thick. It is shaped like Figure 1.

It is white, shiny, hard and smooth. On one side is a scar where it was attached to the pod.

The bean has three parts. The first part is the skin or seed-coat. It is soft, smooth, thin, tough, white and translucent. It protects the parts inside and keeps them together. Being tough helps it to do this. The second part of the bean is the seed-leaves or cotyledons. There are two cotyle-



Fig. 1. Fig. 2. Fig. 3. Fig. 4. Fig. 5.

dons. Each one is flat on one side and curved on the other. They are smooth, hard and yellowish white. We use them for food because they contain so much nourishment. The third part of the bean is the new plant or embryo. It has two parts—a long, slender, round, white part, and two little leaves. The little plant looks weak and tender, and needs good care. The cotyledons protect it and take care of it. They can do this well because they are thick and strong.

The next is an example of a free reproduction made by a child in the fifth grade, from topics written on the board.

THE BEAN SEED.

The bean seeds grow in pods on plants. The plant grows to the height of one foot. The bean is used for food, medicine, and to produce new plants. The size of my bean is three-fourths of an inch long and one-fourth of an inch thick. The shape of the bean is like Figure 2.

Its color is white. The bean is hard, smooth, and shiny. The scar on the bean is caused by the stem by which the bean was fastened to the pod.

The first part of the bean is the skin or seed-coat. The skin of the bean seed is smooth, thin,

tough, white, translucent and soft. The skin or seed-coat holds the parts of the bean seed together, its toughness helps it to do this well. There are two seed-leaves or cotyledons. They are round on one side and flat on the other. The color of the seed-leaves is white. They are smooth, hard and shiny. The uses of the seed-leaves are for food, and to protect the small plant between them. The little plant or embryo is composed of two parts. The first part is composed of two small leaves, the second part is smooth, slender, white and round. The cotyledons nourish and protect the embryo. See Figure 3.

In this connection the children enjoyed very much a poem by Kate L. Brown:

In the heart of a seed,
Buried deep, so deep,
A dear little plant
Lay fast asleep.
"Wake!" said the sunshine
And creep to the light,
"Wake!" said the voice
Of the raindrops bright.
The little plant heard
And it rose to see
What the wonderful
Outside world might be.

At this point in the work, a comparison may be made between the pea and the bean, involving the topics as far as already studied in the work with the bean. The wise teacher will also look ahead in this nature study, and plan to use all the steps belonging to the work of instruction as indicated in the pedagogy of Herbart, absorption, comparison or association, system and application. The study of the bean family offers the best of opportunities for doing this, and conducted in such a way will leave in the minds of the children a network of related concepts which can be used at any time, a tendency toward classification and generalization, and a better understanding of the abstract. The first step, absorption, including analysis and synthesis, is used in the study of the bean itself, taking it through its entire development, then comparison of the pea and any other similar specimen the teacher may desire to use may follow. System would consist in formulating abstractly the common characteristics found by the comparison, and in a conclusion that plants possessing the essential common characteristics belong in the same class. Application may be brought in by giving the child some new specimens, perhaps one or two which belong to the same family he has been studying and one which does not, and letting him study them for himself in the light of what he has learned and make his own classification.

In comparing the pea seed with the bean seed, the matter developed may be something like this:

The pea and the bean grow in a pod but the pea plant grows much higher than the bean plant and is ready to fly. The two of the pea are the same as those of the bean. The pea is smaller and different in shape being spherical. It has the same membrane found in the bean except the color which in the pea is green. The number of parts and their structure are the same. The embryo is the same.

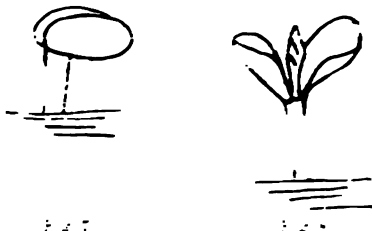


The next work will be to return to the beans which were planted to watch the different steps in their development. While this may be done by oral and written description, probably the most impressive and interesting way for the child is to make drawings. The two methods may be combined. The earlier steps in the development may be noted as follows:

First.—The bean swells, the cotyledons separate a little and the small white part of the embryo begins to grow out. See Figure 4.

Second.—The cotyledons spread a little farther apart. The part which is growing out develops branches and begins to look like a root. See Figure 5.

Third.—The cotyledons appear above the ground and the root is found to be much longer. See Figure 6.



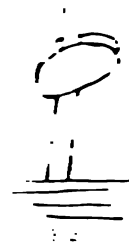
Fourth.—The cotyledons grow higher above the ground and begin to turn green. The skin is broken and looks ready to fall off. See Figure 7.

Fifth.—The cotyledons open and show the little leaves developing inside. See Figure 8.

Sixth.—The leaves develop and the plant is about four inches high. See Figure 9.

Each successive stage may be described and pictured in the same way, and each part studied as to its function and structure as it develops. By putting the young plant into a colored red liquid it will be seen that it is the work of the roots to absorb moisture and with it the food of the plant; the work of the stem to carry this food to the

leaves and to the other parts, the work of the leaves to make the food and plant material etc. The important part of each part to perform its function should also be described. Then with the older children, the teacher may describe how the leaves take in O_2 and give off oxygen, showing their double function as lungs and so much of the plant. If the plants are kept in a sunny window in the school room and carefully watched, all the stages of development may be illustrated before the close of the school term. If this cannot be done, let the children complete as much as possible of the study of this time, have the reproductions and drawings carefully preserved and the study may be finished in the fall when the fully developed specimens of the plant may be obtained. The work should not be limited to an understanding of the development



of the bean plant means an understanding of the development of all plant life, so that much time and care can well be spent upon it. The reproductions should be most carefully and neatly made, for each child who makes a complete paper on the life history of the bean will have a valuable possession representing an increased understanding of nature, of our sympathy with it and an increase of mental power. Comparative work with the pea may be carried along throughout, and may or may not be included in the reproductions as may seem desirable. The other steps, generalization and application, previously mentioned, brought in at the close of the study will make the work stronger and more complete.

The work of this article has been, necessarily, mainly suggestive but it is hoped it may be helpful along the line of plant study.

It might have been stated that another convenient way to watch the early stage development, besides those previously mentioned, is to stretch mosquito netting across

dishes filled with water and watch the little roots as soon as sprouted, push downward through the opening in the netting. The plants will grow to a height of several inches in this way. Some seeds will also germinate nicely in damp sawdust.

ELIZABETH E. PERRY,
Critic Teacher.

AKRON NORMAL SCHOOL, Akron, O.

MUSIC IN THE PUBLIC SCHOOLS.

When we study a subject we wish to know its origin. A subject grows in interest if we are able to trace it step by step and grow with it.

Lowell Mason was born in Massachusetts in 1792. He was a liberal-minded man, much more so than his predecessors. He never heard a good piece of music until he heard his own compositions. He was not particularly bright in books, but learned to play almost any kind of a musical instrument. At the age of 21, in company with two others, he went to Savannah, Georgia. It took six weeks to make the journey and cost each of the party \$97.00.

He was in a bank in Savannah, but before a great while he showed his musical ability, and was made leader of a church choir, into the music of which he soon impressed his personality. By 1821 he had enough of his own compositions to make a book, and he went to Boston to see about having it published. The outlook was discouraging, but the Handel society came to his aid and offered to share in its publication. Mason was not to be known, as it would injure him in his business if he was known as a musician. His share of the proceeds of this publication was about \$12,000.00.

He was not allowed to remain in Savannah, but was offered a bank position in Boston and charge of three choirs. He finally confined himself to Beecher's church alone. Through the influence of Wm. C. Woodbridge, who had traveled in Europe, studying educational methods, Mason was led to adopt the Pestalozzian method of teaching.

Through his untiring efforts he and a few of his friends, against strong opposition, succeeded in having music taught in the public schools of Boston. Mason was so sure the plan would succeed, and was so anxious for the trial, that he taught one year free.

Its success is not a question of doubt, when we know how almost universally it is used in the cities and villages of the United States.

Having spoken of its origin let us think for a short time about the kind of music we should teach. One of the principal things in the child's education is his interest in the subject. Is it the duty of the music supervisor to interest the child in popcorn, frost, snow, flowers, etc. Yes, and no. These may be a means to an end. If the popcorn and frost be not connected with good music then it is as much out of her line of work as it is that of the reading teacher to use bad literature for the simple purpose of teaching a child to read. A little jingle will teach a child to read notes. But notes put together do not always produce music. Our much-used Sunday School music is an example. May the time soon come when good music may be used for our children in His house.

At the State Convention at Indianapolis one county superintendent said that in one school under his jurisdiction the discipline was the one thing to be thought of as it seemed as if the school was almost ungovernable. The introduction of music into that school so changed it that discipline was unnecessary.

Teachers seem to deplore the lack of opportunity to instil Christian, as well as moral, training into the child's life. Music is a means to this end.

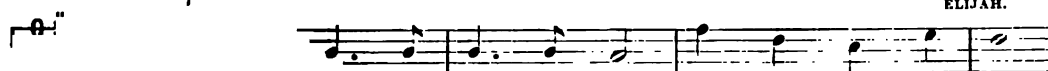
Many little maxims are taught in our Primary rooms, why not sing them. Could we find a better one than the first selection below coupled with the thought that the man who wrote it was sweet-tempered Mendelssohn who loved children so dearly that when asked by the Queen what he desired most said—"to see the royal children in their nursery."

When he called at the home of a friend and found the older people out he would ask for the children, and much to their delight romp and play with them. After he had tired of this kind of sport he would seat himself at the piano and play to these same children. They would catch at his hands but he would jerk them away and play on. We no doubt have listened to and played some of his pieces composed in this way.

The second selection is from this same author.



But the Lord is mind-ful of His own, He re-mem-bers His chil-dren.



ver Is-ra-el, Slum-bers not nor sleeps.

Have you a child who can sing the scale and intervals who can't sing as much as I have given of either of these selections.

Let us also lead the child to become interested in the little boy Handel, who, because his father did not wish him to become a musician, stole away to the attic and copied music by moonlight. Here, by the aid of his mother, he hid a dumb spinet on which he played during the night, moving his fingers and feeling in his soul the grand and melodious strains. Then came the turning point in his life. His father planned a visit to a duke. Little Handel wanted so much to go, for he knew here he would hear good music. But he was forbidden the pleasure. So intent was he that he ran behind the coach which held his father. When they were quite a distance away he was discovered and allowed to go. He did hear good music, and one day his father and the duke discovered him playing. So evident was his talent that the father promised to let him study. The result was the Messiah. He wrote "Hallelujah! Hallelujah!" and said—"I saw the Great God and all his angels singing His praises." Many of his manuscripts were tear-stained. This does not only apply to vocal music, but the teacher of music in the public schools should also interest the child in a Chopin Nocturne or a Liszt Hungarian Rhapsodie. Children would listen understandingly to Chopin's Choral Nocturne if they had the thought of it pointed out. All children have seen gypsies. Tell them how Liszt lived in their camp, studied their songs and dances, and put that into his rhapsodies. We, as a people, seem to desire amusement. Our streets are filled with men and boys whose homes may be pleasant or otherwise who drift into saloons and gambling places because they are bright and attractive. Nothing adds so much as music. We draw our largest audiences now with music.

Our last legislature passed an act making education compulsory. As we have an opportunity, therefore, at every youth in the land let us make the desire for good music so strong that a good concert would draw stronger than a saloon. In our popular lecture courses this culture is being felt for the concert numbers draw more strongly than any others. Good music, such as Handel's Messiah would not be found in a place of bad moral influence, so let us educate the child in this kind of music.

BEATRICE O. SANDERS.

TEBEE, HAUTE, IND.

It seemed endless.—Pastor: How did you like my sermon on eternity last Sunday? Parishoner: Sermon? Why it seemed to me more of an object-lesson.—*Truth.*

DECORATION.

TO WHAT EXTENT, AND IN WHAT WAY, SHOULD BE MADE A FEATURE OF PUBLIC SCHOOL ART INSTRUCTION.

William Morris has said:—"What I want to put before you a cause for which to strive. That cause is the Democracy of Art, the ennobling daily and common work, which will one day hope and pleasure in the place of fear and pain the forces which move men to labor, and keep the world going."

It is an assured fact that a large percentage of the rising generation now in our public schools and perhaps a larger percentage of the next, will be laborers, and, daily laborers at what William Morris calls "common work." At the present time, the contrast between the mind of the average man and that of one of the highest intellectual development is very great, and in that contrast we see one of the far-reaching steps between the lowest and highest, the half civilized and the possible development that borders on divinity. Time is a leveller, and though these steps are great, we believe them to be much less a nearer together than in ages past. Though men are more nearly developed among the masses than formerly, the "common work," which may include the house-keeping, the tilling of the soil, the manufacturing, the building, the picking and shoveling, the sewing and mending, the book-keeping and teaching, all has to be done, and those who feel its drudgery more than in the past, because they know and appreciate the existence of other conditions which they feel would give them a much broader, fuller life. Discontent follows this state of affairs, and a constant irritation within breeds envy, hatred and malice to say nothing of anarchy and socialism. Among these doers of the "common work" is the field for idealizing the real, where the ideal cannot be realized, and it is just this, the idealizing the real which will one day put hope and pleasure in the place of fear and pain, and help humanity as with Dr. Giannetti, "Blessed be Drudgery."

All this impresses upon us that each must do his part toward the ennobling of common work, and we, as directors of Art Instruction, have a broader brighter avenue through which to use our influence than almost any other class of teachers.

The study of decoration is, perhaps, the channel through which we may bring art and common work more closely together. My subject is, "To what extent and in what way?" to which the reply is, always in a way to connect the environment, and to the extent of

common things with which and for which we work.

The material for the study of decoration surrounds the masses on all sides. It cannot be like much beautiful painting and sculpture, shut from the common people in palaces and galleries. Especially in connection with architecture and its own mother, Nature, is it spread abroad for every eye, if only the eye is open. The study of decoration, perhaps, does more for the pupil as a means through which he "takes notice" than in any other way. A house may not have in it a beautiful picture or a bit of sculpture, but it will have wall-paper, carpets, table-covers, fabrics, dishes and utensils galore, all more or less decorated. Here is our material to admire or deplore, within our very doors, connected with nearly every home experience of the child, staring him in the face as he walks about the streets, and looking out from every thing in nature.

We wish to work from within out, which necessitates a foundation built within, and this may come through the study of historic ornament, the original work, which should carry out whatever is learned of principle through the study of the good that has survived centuries, being carried along with such study according to the ability and power of the child. Through this study the child realizes dependence of one nation upon another, of one life upon another, of the greater power of the producer of most good and the final dependence of all upon nature. This helps to ennoble the art, the artisan and that to which the art is applied.

All original work should be for a purpose, "fitness to purpose" being one thing we wish to impress in the study of decoration.

When a pupil is sufficiently developed intellectually, to step into conventionalization of natural forms, for purposes of decoration, we have a means by which to test his knowledge of principle, pleasing form, and fitness to purpose.

No two of us would give the same exercises, begin in the same way, or end at the same place, in teaching decoration, but we all agree that we wish to give in our course of instruction clear ideas of what is good in ornament, a taste for nothing but the good, and some ability to originate and apply such. We are training fathers, mothers, teachers, artisans and all common workers, who are to make the demands during the coming years, and what a revolution there will be, when these shall realize that nothing is too insignificant to be considered in the light of its decoration.

If our noble and the common
 thing toward the
 ing to "one

day put hope and pleasure in the place of fear and pain, as the forces which move men to labor and keep the world a going."

L. DORRIT HALE,
 EVANSVILLE, IND. Supervisor of Drawing.

STATE DEPARTMENT.

To the County Superintendents The County High School examinations will be held on the last Saturdays of May, June and July, 1897. These examinations are for the superintendents, principals and teachers of the commissioned, non-commissioned and township graded high schools of the State, except superintendents whose salaries are paid wholly from the "Special School Fund," and holders of State Licenses and diplomas from the State Normal School.

Applicants will be examined in the subjects *which they teach* only. The papers will be graded by the county superintendents, who will use the same standard as that used in grading manuscripts for the regular county license.

Applicants for High School licenses will answer the questions in "Scientific Temperance" found in the regular county lists. All teachers must be licensed in this subject before contracting for schools. (See section 4497 b, school law.)

For your convenience and guidance the following is quoted from 143 Ind., page 84: "The facts alleged in this case furnish an apt illustration of the injustice to the public of holding that a transfer, when once made, shall continue until the person transferred shall request to be retransferred. Such a construction of the statute would place it in the power of the person transferred to continue sending his children to school in the school corporation to which he has been transferred, when the conditions upon which the transfer was made, has entirely changed, and when he could be much better accommodated with school privileges in the school corporation in which he resides. No such construction should be given the statute concerning transfers, unless such intention is expressed clearly and with unmistakable certainty.

It is clear, therefore, that when a person is transferred for such purposes, it is only for the next school year, and that such person must request and procure a transfer at the time of making the enumeration each year, so long as he wishes the same to continue."

From the above it is very clear that the transfer to be legal must be made each year.

Very truly,
 D. M. GETTING.



LINCOLN'S GETTYSBURG ADDRESS.

NOVEMBER 19, 1863.

FOURSCORE and seven years ago our fathers brought forth upon this continent a new nation, conceived in liberty, and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation or any nation so conceived and so dedicated, can long endure. We are met on a great battle-field of that war. We have come to dedicate a portion of that field as a final resting-place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But in a larger sense we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here, have consecrated it far above our power to add or detract. The world will little note, nor long remember, what we say here, but it can never forget what they did here. It is for us, the living, rather to be dedicated here to the unfinished work which they, who fought here, have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us, that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we here highly resolve that these dead shall not have died in vain; that this nation, under God, shall have a new birth of freedom, and that government of the people, by the people, and for the people, shall not perish from the earth.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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Pointers. THE EDUCATOR is preparing a very fine program for its readers next year. Some of the details of this preparation will be given in our next issue. In the meantime, we call the attention of all our readers to the fact that THE EDUCATOR has grown steadily in popularity from its first number. All the matter which it has presented, with hardly an exception, has been prepared particularly for it and published only by it. It is now part of our general plan to run each month an illustrated article, and to furnish illustrations for as many of the other articles through-

out the paper as opportunity will allow. This number is a good illustration of this policy. Next month we shall present a very fine paper by Professor B. W. Evermann of the United States Fish Commission, formerly a very prominent western teacher, on "Crater Lake." This article will be profusely illustrated and in every way helpful to our readers. * * * It would be a matter of great convenience to the publishers and would save our readers annoyance, also, if they would consider carefully the standing announcement at the head of this page. It is a matter of almost daily occurrence to have postal cards or letters reach the office ordering us to send THE EDUCATOR hereafter to such and such an address, but not indicating in any way what the old address was. There is a standing announcement above which requires the old address to be in all cases given, since our mailing list is entered by postoffices. It is unreasonable to suppose that several hours search should be devoted to the attempt to find these names on our list. We must insist, therefore, in all cases that the rule be complied with. We are perfectly willing then to change addresses as often as our subscribers desire. * * * Occasionally it is possible to find a "small man" even among school teachers. About the smallest man that we have recently heard of is the one who sent to THE INLAND EDUCATOR to pay for his subscription the amount left after deducting from the \$1.00 the cost of his money order, his postage in mailing it, and incidental items. According to this man's way of figuring, if the subscription price of our paper had been placed at six cents per year we would be under the necessity of paying him two or three cents to get his name on our subscription list. Our mathematical editor found by careful figuring that just enough money had been sent to us to pay for eleven issues. We should be glad if it were possible to furnish THE INLAND EDUCATOR at even a lower price than we are now furnishing it, but there is no reasonable person who would believe it possible. In fact, some of our brother-publishers have protested, vigorously, that we are giving altogether too much for the money, and that they can not properly compete with us. THE EDUCATOR is founded upon the thought that it is possible to furnish a first-class paper at a reasonable price. * * * We call special attention again to our advertising pages. They will be found full of good things to which teachers should give their earnest attention. A number of good summer schools are announced, the book publishers have something interesting to say, and people who ride wheels and those who are interested in various other lines

may find something worth looking into. A number of valuable publications for teachers are also announced by THE INLAND PUBLISHING COMPANY, and we feel sure that all of these are deserving of the most careful notice. It is our aim to build up a series of works designed especially for teachers which may be peculiarly helpful. An effort is made to avoid the intensely technical, and at the same time, not to put forth books that shall degenerate into mere device furnishers.

* * *

Culture and Method.

A correspondent suggests that THE EDUCATOR would accomplish a greater work for teachers if it devoted more space to culture and less to method. The implication is that there are two such things in the world, separate and apart from each other; that teachers are apt to lean too much towards the dry husks of the form in teaching, and to lose sight of the real spirit of education; that in their tendency toward an emphasis of method they disregard the element of culture; in fact, that the teachers are very much lacking in culture. The implication is an old one, and another form it takes sometimes is that teachers' colleges give method, and literary colleges give culture. Possibly such a distinction may be made, but an adjustment of the content for each of these terms would make the solution of this problem easier. If by method is meant something external to the subject, some mechanical, stilted contrivance or device, let us say that no such attribute as this belongs to our pedagogy. If method means the deepest insight into the presentation of the subject, and we are to understand that such insight comes only with the full mastery of the subject, in our opinion such an insight is the richest legacy that can come to any teacher. Whatever culture is, it certainly is not the superficial, transparent plating which one so often comes upon; neither is it the product which comes from shallow dipping into high sounding subjects, nor that which comes from the smatter of a little French, nor yet that which comes from the aping of Eastern institutions. Culture lies as deep as method and comes from the mastery of principles. Culture has nothing in common with snobbishness. Culture is the chiefest attribute of the gentleman and the lady. Real culture is very desirable, indeed; so is real method. Let us have real culture and real method.

* * *

Indian Education.

The article by Lieutenant Stottler in this issue is commended to our readers as one worthy of attention from two or three points of view. It throws much light on the Indian question, and incidentally is

very suggestive to educators in general. Good common sense is the predominant feature of the discussion.

* * *

Horace Mann.

We have come around to another anniversary of the great American apostle of education. We have printed something from Mann in nearly every number during the past year, and we cannot let this occasion go by without speaking again of the great work he did. We always remember most his kindly nature, and that the great yearning desire of his heart was to make men better. We are sure he has been an inspiration to thousands of teachers as he has to us, and that his life at least made teaching a kindlier, happier calling.

* * *

The Cubans.

The situation in Cuba is unchanged. A plucky liberty-loving people seem to prefer death under the worst conditions to life under Spanish government. If we may believe one small portion of the Spanish atrocities reported, the Cubans would better suffer complete annihilation than submit to a continued bondage. The following from the *Review of Reviews* of May is a typical picture:

"Shortly after the sunrise gun you hear the first signal of the grewsome spectacle—a military band playing false music. Then you see three or four companies of infantry troop out of the sallyport and form on the esplanade three sides of a square, the fourth side being the rampart of the fortress. Then follows another procession—a troop of soldiers in skirmishing order, and in their midst three or four peasant boys, with their arms tied behind their backs and their legs hobbled, come shuffling down toward the wall facing which they are to die. Over them is borne, horrible mockery and sacrilege, the image of the Prince of Peace, of our Saviour crucified, and one of His shepherds stands by to lend by his presence at the shambles the dignity of an act of state to what is simply cowardly murder. Across the water you can see the boys kneel, you can see the murderous platoon advance, you can almost hear the word of command, and in a moment those who were men and brothers lie writhing on the ground, mutilated beyond recognition."

* * *

Greeks and Turks.

As we go to press the situation in the East is very indefinite. There has been much fighting, and heavy losses by both sides are reported. Just when the world was expecting great things from the Greeks at Larissa, the post was suddenly abandoned, seemingly, without good cause. The Greeks are not supposed to have much chance of success. The total war strength of their army is only 200,000, while the Turkish army numbers 850,000. The Greek navy is the stronger. Both countries are bankrupt. There is no doubt at all which country has the sympathy of the civilized world, and it looked for a while as if the recruits to

the Grecian ranks from the other countries might make Greece victorious.

* * *

The University of Chicago.

President Harper of the University of Chicago in his eighteenth quarterly statement touches upon some points of vital interest to education. He shows that the principle of self-government has been adopted, and that its application is gradually making its way in the different spheres of student activity. He says that at the present time there is a proposal before the undergraduate body, made by the junior and senior college councils, to have the examinations of The University placed under the management of the students. This plan provides that the students, themselves, shall try all cases of dishonesty and recommend the penalty to the proper faculty.

In regard to the question of athletics, the president thinks that the colleges of the country should regulate their own athletics.

He shows that the attendance at the University has been as follows during its four years of existence: 782, 958, 1,591, 1,881.

His discussion of the work that is expected of the instructors of the University is to the point. He says that it is a common impression that a professor in a college or a university, especially in a larger institution, is a man of comparative leisure; that the many hours spent each week in the performance of duties outside of the classroom are overlooked. He thinks that the best results in university work will come in an atmosphere of comparative leisure. Scholarship may not be hurried. He seems to think that it would be wise to establish chairs simply for investigation and research without requirement in the way of instruction. In the University of Chicago every officer is expected to conduct two definite courses of instruction. The president says that he is ready to maintain, on the one hand, that the position and the work of the university professor are ideal; but that, on the other hand, he must insist that there is no ordinary position of which more exacting demands are made; no ordinary work respecting which, greater expectations are entertained.

He says one of the questions most frequently asked is in regard to the fact, that The University continues its work throughout the twelve months of the year. The question is in regard to requiring the professors to perform service during these twelve months. The University expects of each instructor of its staff only thirty-six weeks of resident instruction; i. e., no instructor is expected to be present more than three of the four quarters of the year. The president claims that

this plan has very great advantages, and says that the day is not far distant when the buildings of our public school system will be open for instruction in the summer as well as in the winter.

The amount appropriated for the expenses of the University for the year beginning next July is \$703,000.

It is of great interest to note that during the recent years of depression the University Extension work has not diminished, but has been steadily growing more prosperous.

In regard to the item which has been going the rounds of the papers that Mr. Rockefeller, forced by the threatened resignation of the president, has recently given The University \$10,000,000, he says: (1) The president has never thought of such an absurd thing as threatening to resign; (2) The University has not since October 30, 1895, asked Mr. Rockefeller for a single dollar in the way of new subscriptions, and (3) Mr. Rockefeller has not subscribed \$10,000,000 nor \$1,000,000, nor one single dollar. He does claim, however, that the University needs and ought to have immediately \$4,000,000 added to its endowment fund.

Finally, in answer to the question, What is the greatest single piece of work which still remains to be done for the cause of education in the city of Chicago and in connection with the University? he says: "A school of medicine in the city of Chicago with an endowment large enough to make it independent of the fees received from its students, with an endowment large enough to provide instruction of as high an order as any that may be found in European cities, with an endowment large enough to provide the facilities of investigation and research which may be used by those who would devote their time to the study of methods of prevention of disease as well as of the cure of disease; an endowment for medicine which would make it unnecessary for men to seek lands beyond the sea for the sake of doing work which ought to be done here at home, such an endowment, for medical education is the greatest piece of work which still remains to be done for the cause of education in the city of Chicago. The work of the next century will be to prevent sickness rather than to cure it."

EDUCATIONAL INFORMATION.

President Swain of Indiana University will deliver the address before the Rockville High School.

President Parsons of the Indiana State Normal delivered an address to the graduating class of the Bedford High School Wednesday evening, April 21st.

Franklin College treated the teachers of the

Southern Association very handsomely during the recent meeting. In addition to cordial invitations to use the college buildings the institution issued a very neat program for the occasion.

State Superintendent J. Q. Emery of Wisconsin, has just issued a manual of aids for the appropriate observance of Arbor and Bird day. The pamphlet is a real work of art and contains a great deal of material that will prove very suggestive for programs on such days as these.

The twenty-eighth meeting of the Michigan Schoolmaster's Club, which took place at Ann Arbor on April 2-3, devoted its time to a discussion of Latin and Greek, English, history mathematics, physics and biology. This club is one of the strongest educational bodies in the United States.

The Bedford schools closed this year earlier than usual on account of a shortage in the fund. There were sixteen graduates, twelve girls and four boys. Superintendent Alexander, who has had charge of the schools during the past year, has been very successful and has won a substantial place in the regards of the people.

Professor Charles Zueblin of the University of Chicago has just completed a course of University Extension lectures at Terre Haute. The course was along the lines of social reform. The center at Terre Haute is a healthy one. The work done by Professor Zueblin was of a high grade and was very much appreciated.

The third annual commencement of the Mentone High School occurred on the 30th of April. There were five graduates, four boys and one girl. Principal O. H. Bowman, a member of the class of '93 of the Indiana State Normal, has charge of these schools. Mr. Bowman is a close student of educational problems of the day and has met with success in the work that he has undertaken.

Ginn & Co. announce a new primer, by Adelaide V. Finch, principal of the Normal Training School, Lewiston, Maine. The Finch Primer promises to consider the environment of the child at the different seasons of the year and to present simple and carefully graded lessons appropriate to the autumn, winter, spring and summer months. It is to be fully illustrated with colored pictures.

The Sullivan schools have been very successful this year under the management of Superintendent W. C. McCollough. Progress has been made in many directions. Among other things that have been accomplished may be mentioned the new life that the high school has taken on in the direction of science. Recently a great deal of much needed physical apparatus has been purchased. Miss Charlotte Miller, a graduate of the

State Normal and DePauw University, has had the department of Mathematics in this school for the past two years and has been very successful in her work.

Washington, Indiana, sustained a severe loss recently in the burning of her main school building. The building was a three-story one and school was in session at the time the fire broke out, but all the pupils succeeded in escaping with no more serious mishap than a broken limb for one of the children. It is said that the building took fire from a burning string which a sparrow carried to its nest in the roof.

The sixteenth annual session of the Parke County Normal is announced to be held in Rockville from May 31st to June 25th this year. The instructors are C. E. Vinzant, Superintendent of the Parke county schools, and Joseph F. Thornton, Superintendent of the Rockville schools. We are personally acquainted with both these men and can heartily endorse, beforehand, the work that will be done in this school. The terms are very reasonable and the attendance will certainly be large.

The Eleventh annual commencement of the Lebanon High School occurred Tuesday, April 27th. The class numbered six—four boys and two girls. Superintendent Jas. R. Hart, Miss Bettie G. Grimsley, Chas. A. Peterson, and Addison L. Fulwider make up the corps of teachers. Miss Eunice E. Little of Dana, Indiana, a graduate of the State Normal and the State University, has just been elected to the Department of English to succeed Miss Marie Dunlap, who died during the year.

We are pleased to note that Professor Ellwood P. Cubberley, who resigned the presidency of Vincennes University last year to become Superintendent of Schools at San Diego, California, is sustaining his reputation as a live educator in the far West. We have received an announcement of the Coronado Beach Summer School, of which Mr. Cubberley is president. This school begins July 6th and closes July 30th. It announces sixteen instructors and forty-four courses. The conditions and advantages of such a school certainly offer a delightful experience.

Purdue University has just issued its new catalogue. This school certainly is coming to be one of the most efficient technical schools in the country. The Agricultural Experiment Station of the University has been issuing from time to time bulletins giving the outcome of experiments in every direction. Bulletin number 64 for April this year deals with field experiments with corn, oats and forage plants, by William C. Latta and William B. Anderson of the Station staff. The

pamphlet contains a great deal of information that surely ought to prove very valuable indeed to farmers over the state.

An exchange gives an account of what it calls A New School System which has sprung up in the Western Reserve in Ohio. It relates to the graded school system in Ashtabula county, where it is claimed that every pupil in the township, no matter how remote his home may be, is given the advantage of a graded school education. This is accomplished by means of coaches, which stop at the door of each house morning and evening carrying the children to and from a graded school at the center of the township. The account given of the working of the system is very interesting and very novel. With the problem of roads solved perhaps it is a solution to the problem of furnishing high schools for the townships.

The Madison High School Oratorical Contest occurred April 16th. The exercises were of unusual merit and reflect great credit on those who have the schools in charge. Music given on the occasion was given entirely by high school talent and was of high order, the special features being a vocal solo by Miss Margaret Johnson, of the class of '97, and a chorus by the Orpheus Club. The orations were the original productions of the speakers and bore the impress of much study and reflection. The first place was awarded to Arthur Wooden, '97, and called for fifteen dollars; the second place was given to Robert Swan, '00, and called for ten dollars. Professor Taylor and Superintendent McDaniel are to be congratulated upon the success of this meeting.

The Winona Summer School has an excellent announcement for the season of '97. John M. Coulter of the University of Chicago is still principal. The work of the school is divided into five departments: College, Methods, Music, Art and Physical Culture. Each department is in charge of strong instructors. Superintendent Millis of Attica offers courses in Psychology, Pedagogy and Methods. Miss Davidson, supervising principal West Superior, Wisconsin, has charge of Primary Education and the Kindergarten and Miss Mary F. Schaeffer of Germantown, Ohio, will conduct a Model Kindergarten. With the natural beauties of Eagle Lake and the provisions made by the Assembly, surely teachers will find this a delightful place to spend the summer.

The northern Indiana Teachers' Association, which was held at Elkhart April 1, 2 and 3, was a very satisfactory meeting. The attendance was very large, the accommodations were good, the programme was well planned and well carried out. The Northern Indiana teachers have a way of

going to these meetings in bodies and this was no exception. Trustees had their township teachers dismiss school to attend and in some cases the trustees went along. With such speakers from a distance as Professors Van Liew, Tompkins, De Garmo and Bryan, the attractions were strong. Superintendent Thomas did his work well. Superintendent Moon retired gracefully and Superintendent Snyder presided with dignity. Among the live men who took part in the proceedings were Superintendents Henry and Millis. We shall have the pleasure of presenting in full, in a later issue, the excellent paper of Superintendent Millis. The connection of Miss Hill of South Bend, with the Drawing Section, was a guarantee of its success, and the primary teachers were fortunate to hear from Mrs. Dillon of Rochester. We were sorry not to be able to be present in person and on that account must make this brief report suffice.

THE SOUTHERN INDIANA TEACHERS' ASSOCIATION.

The Southern Indiana Teachers' Association met at Franklin, Thursday, Friday and Saturday, April 8-9-10. The Association was well attended, and the meeting was considered helpful in a high degree. At the Thursday evening session in the Opera House the enjoyment of those present was much increased by the excellent music rendered by the Franklin Choral Union, Mr. James L. Vawter, director. During the entire convention the teachers were favored with choice music, vocal and instrumental, by Franklin talent. Those in attendance seemed to enjoy this feature of the program very much.

The remarks of Superintendent Humke, the retiring president, were appropriate, and the address of W. H. Senour, superintendent of the Franklin county schools, was well prepared and thoughtful. The train on which Dr. Arnold Tompkins came to the city was late in arriving, and Dr. John A. Bergstrom of the Indiana University occupied the first hour of Friday morning in a discussion on "School Hygiene." Dr. Bergstrom's lecture was practical and one intended to help the teachers in their daily work in the school-room. Professor Arnold Tompkins, with his usual personal magnetism and earnestness, interested the teachers in the subject, "The Beautiful as a Basis for Literary Study," during the last hour in the forenoon. In the afternoon Professor Tompkins discussed the subject, "The Religion of Education." Not all those who were present would agree with Professor Tompkins in every thought which he expressed, but all would admit that the lecture was extremely interesting and helpful. During the last hour of

Friday afternoon Dr. Bergstrom discussed some reports of observations made by the teachers in their schools. It was generally conceded by those present that this hour was not so profitable as the discussion on "School Hygiene," in the forenoon.

Friday evening Dr. Andrew S. Draper, president of the University of Chicago, delivered a lecture on the subject, "The Pilgrim and his Mission." Dr. Draper made a mistake in not taking a subject in his usual line of work. The lecture was long, dry, and uninteresting. This was largely due to the fact that his subject was not suited to his audience. The lecture was well written and scholarly, but it was not of sufficient interest to hold the attention of the teachers.

On Saturday morning, Professor Wilbur S. Jackson of the Chicago Normal school, occupied the attention of the teachers with the subject, "Relation of Nature Study to the Child's Consciousness." Later in the forenoon he discussed the subject, "Method of Teaching Nature Study," illustrated by pupils' work in painting. Those who heard these two lectures, while acknowledging that there were many helpful suggestions thrown out by Professor Jackson, were conscious of the fact that he made a great many sweeping statements about science which it would be difficult to establish. One is sometimes led to doubt whether or not the enthusiastic, practical hints of such lectures are of sufficient value to outweigh the exaggerations indulged in.

The music section held its session in the Presbyterian church, Friday afternoon at 1:30. Those who had the good fortune to attend this session pronounced it very helpful. The discussions by Miss London, Mr. Owen, and Miss Sanders were all complimented. The paper on "Public School Music" by Miss Sanders was thought to be especially helpful to the teachers.

We might say in passing from the program, that the sentiment seemed to be quite general in the Convention that the program was characterized too much by what is known as "Fads" in education. The day of fads is almost over. Teachers are not carried away by them as they were formerly. What the teachers want in the programs of educational meetings is good, solid discussions of the main lines of work which they are pursuing in their school-rooms from day to day.

The concluding business of the session was the election of the following officers: President, P. P. Stultz, of Jeffersonville; Vice-Presidents, Miss Kitty Palmer and Mr. E. S. Bowman, of North Vernon; Secretary, Miss Janie Deming, of Shelbyville; Treasurer, Mr. W. D. Kerlin, of Martinsville. Executive Committee, W. H. Wiley, Terre Haute, chairman; W. F. Axtell, Washington; C.

M. McDaniel, Madison; Francis Benedict, Worthington, and Miss Leva Foster, of North Vernon.

The officers of the music section are as follows: J. M. Black of Washington, President; Miss Hammond of Greencastle, Secretary.

A great deal of enthusiasm was awakened when the convention attempted to settle upon a place of meeting for next year. Evansville, Madison, Seymour and Terre Haute were competitors. Agreeing to the suggestion of the retiring president, Superintendent Humke, the convention finally decided to leave the matter to a committee of seven, composed of one member from each district. Through the earnest efforts of Superintendent W. H. Wiley, ably assisted by eighteen or twenty other visiting teachers from Terre Haute, the committee was led to decide in favor of that place, and the convention for 1898 will meet in the city of Terre Haute about the first of next April. Superintendent Wiley created quite an interest in the convention by reading to it, on Friday, the invitations from the following organizations in Terre Haute: Polytechnic school, Normal school, the city schools, Board of Directors and the City Council. From these earnest invitations, and the efforts of the people from Terre Haute in securing the convention for that place next year, it might be taken for granted that Terre Haute is in earnest about wanting the convention, and will make all those who attend next year welcome and give to them a profitable session. Indeed, we might say, that movements are already on foot in this city for the accomplishment of these purposes.

Franklin College showed its appreciation of the visit of the Convention, and its desire to make the teachers enjoy themselves, by issuing a very neat and attractive program of the meeting, together with an invitation to visit the college buildings on Friday afternoon. Many teachers availed themselves of this opportunity and looked through the buildings of the college and met many members of the faculty. The public school buildings of the city were also open for inspection on Friday afternoon. All in all, those who attended this meeting of the Association could go away saying that they felt that it was good for them to be there. The officers of the Convention and teachers of Franklin did all in their power to make the visit of the teachers pleasant and profitable. The accommodations were first-class, and the members of the Association were well repaid and had a pleasant time, notwithstanding the fact that the weather during the first part of the Convention was extremely unpleasant.

He who has lost confidence can lose nothing more.

BOOK REVIEWS.

ELEMENTARY GERMAN READER. By O. B. Super. Boston: Ginn & Company, pp. IX + 134.

Judging from the great number of German Readers already published, one would think that a new German Reader would have no reason to be. But those who are familiar with Professor Super's French Reader will, at least, be ready to examine his German Reader. In taking up the "Elementary German Reader," we find that the editor has exercised the same wisdom in the selection of material which is admirably adapted to beginners, as he exercised in his French Reader. In this German Reader Professor Super solves the difficulty that has met many German teachers in the use of German Readers heretofore published. The great difficulty is that the selections become more difficult at a much more rapid rate than the learner's power to interpret the new medium increases. This has been the writer's experience in the use of four different German Readers in his classes. When the reading increases too rapidly in difficulty the student becomes discouraged, and the Reader becomes uninteresting. Professor Super believes in the theory that it is better to have the beginner to read longer lessons of easy reading than to give him short lessons which are beyond his power to interpret.

Part four consists of a number of short poems. These are easy and serve to give the beginner some taste of the exquisite beauty and rhythm of German poetry. Though we may wish that this selection of poems were more extended, and that the book as a whole might contain a little more matter, yet, as a brief course in German reading for beginners, it will certainly prove a great improvement over German Readers before published, from the fact that it is so excellently graded as to lead the beginner gradually into the language by increasing his vocabulary, and aiding him to think, to a limited extent at least, in the new medium. And the ability to think in a foreign language is the surest test as to the learner's progress in that language.

S. W. BAER.

NAPPANEE, IND.

A BIRD'S-EYE VIEW OF OUR CIVIL WAR. Theodore Ayrault Dodge. Revised Students' Edition 1897. With 47 Maps and Battle Charts, a Glossary of Military Terms and an Index. Boston: Houghton, Mifflin & Co. 348 pages. Price \$1.00 net, post paid.

This is a new edition at a popular price of a book which has been accepted as perhaps the only reliable single-volume history of the Civil War. It was written, originally, by Colonel Dodge for his fourteen-year-old son. The book takes one, at once, to the time of war, and the reader lives over

the battles and the campaigns which are described with accuracy, clearness and impartiality. We found ourselves intensely interested in what is commonly a very dry subject. The book is an excellent one for any student who cares to grasp the situation in a clear and concise way, and it is so written that it will appeal readily to the minds of children, and hence will be found really an admirable book for school use. The forty-seven maps and battle-charts, and the full glossary of military terms, make it an exceedingly valuable book for all students. The estimates made of the leading commanders on each side are very fair, indeed, and constitute an important feature of the work. The book as a whole, may be relied upon, and at the price at which it is placed now, ought to accomplish a great deal of good. F. M. S.

BOOKS RECEIVED.

HOUGHTON, MIFFLIN & CO.: Boston.

A Bird's Eye View of Our Civil War. Theodore Ayrault Dodge. Revised Students' Edition, 1897. With 47 Maps and Battle Charts, a glossary of Military Terms, and Index. 348 pages. Price \$1.00.

C. W. BARDEEN: Syracuse, New York.

Topics in American History. George A. Williams. 180 pages. Price \$1.00.

L. S. DENISON: Chicago.

The King, the Knave and the Donkey. Pythian Damon. Paper, 120 pages. (Denison's Series, issued quarterly) \$1.00.

A. D. CROMWELL: Humboldt, Iowa.

Physiology Outline. 13 pages. A. D. Cromwell. Price 15 cents.

INDIANA STATE BOARD QUESTIONS FOR APRIL, WITH DISCUSSIONS.

SPECIAL NOTICE.

For the six examinations, beginning with May, 1897, the questions in "General Culture," will be based on Guizot's History of Civilization, covering one of the Township Institute Outlines (1896-7) at each examination, beginning with the first.

For the same examinations the questions in *reading* will be based on Tompkins' "Literary Interpretations," covering one of the Institute Outlines at each examination, beginning with the first.

The questions in the "Science of Education" for these examinations will not be based on any particular text.

GUIZOT'S HISTORY OF CIVILIZATION.

(Any four.)

1. What was the theory of the feudal monarchy? Did the facts sustain the theory?
2. What was the character of the European monarchy in the twelfth century?
3. Explain how certain early social elements in European life have been retained.
4. Discuss the attempts at political organization from the twelfth to the sixteenth century.
5. a. Mention four events which mark the beginning of modern history.
b. Mention some notable inventions that mark the beginning of modern history.
6. Trace the acts and reigns tending to establish French absolutism. What were some of the influences tending to the rise of a strong monarchy in England?
7. What was the condition of Germany in this period?

1. The theory of the feudal monarchies was, that the chief feudal lords should rule the inferior lords and they, in turn, should rule the common people. The facts did not sustain the

the greater portion of the feudal times every lord had an independent rule of his own, and acknowledged no superior authority. It was a time, in fact, in which there was a monarch in name but not in reality.

2. The character of the European monarchy in the twelfth century began to be much stronger than that described in number 1. Some of the very strongest and wealthiest lords became in fact, absolute rulers over both the inferior lords and their subjects, and thus there gradually grew up from the twelfth century the monarchy which characterizes the present rule of England, Spain (Germany, Italy, and Austria).

3. Some of the early social elements in European life were, theocracy, as represented in the church; aristocracy, as represented by the feudal nobility; democracy, as represented by the city governments, and monarchy as represented by the kings and emperors. All of these elements have been retained in modern European life, but the difference between their relation in early European history and the present is, that in the former they undertook to live together, side by side, without any one of them being predominant, while in the latter all of them are merged into one organic life, called a nation.

4. The various attempts which were made at political organization from the twelfth to the sixteenth century were, first, by the church. The church undertook to organize and subordinate all other elements of society to its rule and laws. In this it failed, chiefly for the following reasons:

- a. It ruled by a moral force and not by force of arms, and therefore, was not well fitted for exercising a positive influence in the rule and control of society.
- b. It was strongly opposed by the independent and powerful feudal lords.
- c. On account of the rule of celibacy it had to draw from various sources to recruit its organization, and therefore could not remain as compact as is the case in a theocracy, in which positions were secured through heredity.
- d. The theocratic power was strongly opposed by the monarchs.
- e. The Court of Rome was strongly opposed, at intervals, by councils which were held in France, Germany and Italy.
- f. The spirit of free inquiry, which gradually developed, in the latter portion of the Middle Ages, tended to weaken the power of the theocratic government.

The second general attempt at political organization during this time was by the cities; namely, the cities of Italy, Southern France, Flanders and

Germany. These attempts all failed because there arose in the several cities tyrants, or despots, which destroyed the liberty of the general mass of the people, and therefore made it impossible to organize society in general according to these municipal ideas.

5. Four events which marked the beginning of modern history are:

- a. The fall of Constantinople in 1453.
- b. The discovery of America in 1492.
- c. The Protestant Reformation, beginning in 1517.
- d. The general revival of learning during the fourteenth and first part of the fifteenth century.

Some notable inventions which marked the beginning of modern history were:

- a. The invention of gunpowder.
- b. The invention of paper.
- c. The invention of printing.

6. Beginning in the first half of the fourteenth century and continuing for one hundred and fifty years the nobility, the citizens and peasants, were united in a moral tie, a common name and common honor in France through their wars with England.

During the same time France greatly extended her territory by expelling the English and uniting the colonies which the English occupied to the French crown. The important reigns which tended to establish this French power were: Charles the Seventh, 1492-1561; Louis the Eleventh, 1461-1483; Charles the Eighth and Louis the Twelfth, 1483-1515.

During the reign of Charles the Seventh a standing army was formed, and the king's power of taxation and administration of justice was greatly extended.

During the reign of Louis the Eleventh (1461-1483), the French nation was greatly strengthened by a policy of craft diplomacy, as distinguished from force which had hitherto been the chief power of kingly rule.

Some of the influences tending to establish strong monarchy in England were, the Hundred Years' War with France, and the Wars of the Roses.

In England, during the fifteenth century, centralization advanced very rapidly through the war which England waged with France. To carry on this war the French people made large grants of money to the king, which greatly increased his power.

The Wars of the Roses tended to establish the English monarchy by destroying, to a large extent, the English nobility, which relieved the king of a check to his arbitrary power.

7. Germany was becoming more centralized in this period through the influence of Maximilian the First. He established a standing army in Germany just as Charles the Seventh had done in France. Germany, however, did not advance in centralization as rapidly as France did.

SCIENCE OF EDUCATION.

1. State three distinct educational thoughts of Herbart which you consider fundamental.
2. What is the central thought of the kindergarten?
3. For what does Pestalozzi stand in education?
4. What are the excellences and the defects of Rousseau's educational theories.
5. On what ground would you exclude from the school all sectarian religious instructions?
6. What is the aim of the general child-study movement of our time.

1. The great problem in education according to Herbart, was how to realize the five ideas of freedom, perfection, right, equity and benevolence, within the province of education. The complete work of education, he said, consisted in *discipline, instruction and dialectic training*: It is the office of discipline to keep order and to subject the naturally unruly inclinations of the individual. Such subjection, however, can only be effected by a power strong enough, and acting so frequently as to be completely successful, before indications of a genuine will persisting in wrong are exhibited by the child. The aim of instruction should not be solely, or even predominantly, the amount of knowledge; nor should it be the acquisition of merely technical skill, but culture of the personality. Dialectic training embraces all direct action upon the disposition of the pupil which is prompted by the intention to purify and supplement his energies, and to lead him toward objective liberty.

2. The Kindergarten was founded by Frederick Froebel. The name expresses the analogy between child and plant life to which Froebel constantly referred. In accordance with the indications of nature he sought to develop the child's body by wisely-directed physical movements. The child's inborn desire for activity manifests itself in play, and children love to play together. The kindergarten guides this inclination into organized movement, and invests the games with an ethical and an educational value, teaching, among other points, besides physical exercise, the habits of discipline, self-control, harmonious action, and purpose, together with some definite lesson of fact. The senses are developed in the same manner. It has a larger sphere, however, in regard to the development of the child's individuality. Character is the supreme end. Hence, the great necessity on the part of the kindergarten of an understanding of the threefold nature of the child.

3. In the *Swan-Song*, written in 1826, Pestalozzi says: "The idea of elementary education to which I have consecrated my life, consists in re-

establishing the course of nature. It should concern itself with developing the heart, the mind, and the practical skill of man. It requires a fair proportion amongst the forces of human nature; and this fair proportion requires the natural development of every force. Now, every force is developed according to laws peculiar to itself, and by the simple means of exercise. Man develops the fundamental elements of his moral life; i. e., his love and faith, by the exercise of love and faith; those of his intellectual life; i. e., his thought, by exercise of thought; those of his practical or industrial life; i. e., the power of his organs and his muscles, by the exercise of this power. Man is urged by the very nature of the forces in him to employ them, exercise them, give them all the development, all the perfection, of which they are capable. These forces exist at first only in germ; and the desire to exercise them augments with every successful effort, and decreases with every failure—especially when the failure entails suffering. The first stage of education should strive so to regulate the exercise of the faculties that every effort in every department shall be successful. The essential condition for the development of a child's moral nature is tranquillity. Excitement, excess of care or of indulgence, are wholly hurtful. The starting point of thought is intuition; i. e., the immediate impression which the world makes on our senses inner and outer. So the power of thinking is formed and developed at first by the impressions of the moral world on our moral sense, and by those of the physical world on our physical senses. These impressions, perceived by the understanding of the child, give him his first ideas and at the same time the desire to express them—at first by gesture, and then by speech." In a word Pestalozzi stands for education by doing.

4. Rousseau's idea of education was that it should commence at birth, and should be guided by a comprehension of child nature growing out of a careful and sympathetic study thereof. The following quotations will indicate something of his educational theories: "All is good as it comes from the hand of the Creator; all degenerates in the hands of man. Men are moulded by education as plants are by culture. We are born feeble and have need of strength; we are born stripped of everything and we need help; we are born stupid and have need of judgment. Everything which we lack at birth and which we require in our maturity is given to us by education. This education comes from nature, from men, or from circumstances. The internal development of our faculties and of our organs is the education of nature; the use which we are taught to make of

this development is the education of men; and the acquisition of experience about the things which affect us is the education of circumstances. How to live is the trade I would teach the pupil. In passing from my hands he shall not be magistrate, or soldier, or priest; he shall be first of all, *man*." While Rousseau's ideas in regard to education as above quoted seem to be thoroughly sound, his own life was not only at variance with these principles, but his schemes for carrying them out were wholly visionary and impractical. After laying down what he chose to call the laws of nature, he wholly disregarded the guide he had chosen and seemed to be ignorant of the first laws of growth.

5. On the ground that the school is a non-sectarian institution, and has within it representatives of every shade of belief.

6. To thoroughly acquaint teachers with the child for whom the school exists.

GRAMMAR.

1. Name the essential parts of a sentence. Illustrate.
2. State how each word is used in the following:
"And from the blessed power that rolls
About, below, above,
We'll frame the measure of our souls;
They shall be tuned to love."
3. Illustrate in a sentence four relations of the noun.
4. Illustrate the difference between the use of a verb and a participle. Explain.
5. Use the word "like" as an adjective and as an adverb.
6. How would you present the subject of mode to a class?
How could the composition work be brought to bear upon the subject of mode?

1. The essential parts of a sentence are subject, predicate and copula; e. g., Napoleon was charged with ambition. In this sentence the subject is the word, "Napoleon;" the predicate of the sentence is the words, "charged with ambition;" the copula is the word, "was."

2. The word, "and," is an introductory conjunction; the word, "from," is a preposition used as a relation word of the prepositional phrase, "from the blessed power that rolls about, below, above." The words, "the" and "blessed," are adjectives and modify the word, "power." The word, "power," is a noun used as the principal word of the prepositional phrase. The word, "that," is a relative pronoun used as the subject of the verb, "rolls," and to show the relation between the principal and subordinate thought. The word, "rolls," is a verb, principal part of the predicate of the subordinate clause. The words, "about," "below" and "above," are adverbial modifiers of the verb, "rolls." The word, "we," is a pronoun used as the subject of the sentence. The word, "will frame," is a verb used as the principal part of the predicate of the first independent clause. The word, "the," is an adjective used to modify the noun, "measure." The word, "measure," is a noun used as the principal part of the direct objective modifier of the verb,

"frame." The word, "of," is a preposition used as the relation word of the prepositional phrase, "of our souls." The word, "our," is a pronoun possessive modifier of the noun, "souls." The word, "souls," is a noun, principal part of prepositional phrase. The word, "they," is a noun used as the subject of the second independent clause. The words, "shall be," is a pure verb used as the copula of the clause. The word, "turne" is a participle used as the principal part of predicate of the clause. The word, "to," is a preposition used as the relation word of the prepositional phrase, "to love." The word, "love," is a noun used as the principal word of the prepositional phrase.

3. *Simon*, the artist was a brother of the *past*.

4. The verb always asserts a relation between thought subject and thought predicate; the participle never asserts. The verb sometimes expresses an attribute in addition to the assertion. The participle always expresses an attribute. *My story is interesting.* The boy *writes* well. The boy *sitting* on the front seat is my brother. In the first example, the verb simply expresses the relation between thought subject and thought predicate. In the second example, the verb expresses the relation between the thought subject and thought predicate, and also the attribute or act *writing*. The word, *sitting*, in the third example simply expresses an attribute.

5. Adjective; e. g., Elias was a man *subject* *like* passions as we are.

Adverbial; e. g., Solomon in all his glory was not arrayed *like* one of these.

6. Place before the class a list of sentences similar to the following:

1. I see the towers of London.
2. The mill will never grind with the water that is past.
3. If 't were done when 't is done, then were well. It were done quickly.
4. If he has been here, I have not seen him.
5. If thou hadst been here, my brother had not died.
6. He may study his lessons.
7. If thou hadst said him nay, it had been so.
8. Thou shalt not steal.
9. Turn ye! Turn ye again, O Israel!

Ask the pupils to state the relation in each case between the thought expressed by the sentence and the fact in the external world. State whether the thought expressed by the sentence is a reality or whether there is some doubt in the mind as to its reality; or whether it is a mere supposition and there is no fact in the external world corresponding to it; or if the thought in the mind corresponds to the fact in the external world on

count of necessity in external circumstances, or will outside of that of the actor.

What property of the verb is illustrated in the preceding sentences? Define. State the different kinds or classes and define and illustrate each. From a careful study of the above sentences, the pupils may be led to see that there are just four relations between the thought expressed by the sentence and the fact in the external world:

- (1) The thought may correspond to a reality or fact in the external world, as in the first sentence. When the verb shows that this relation exists, we say that it is in the indicative mode.
- (2) The sentence may express a thought which may or may not correspond to a fact or reality in the external world and the mind is in doubt as to whether it does or does not, as in the fourth sentence. Or the sentence may express a thought which is a mere supposition. There is no reality or fact in the external world corresponding to it and the mind knows it, as in the fifth sentence. If the verb shows that either one of the preceding relations exists between the thought expressed by the sentence and the fact or reality in the external world, we call it subjunctive mode.
- (3) The thought expressed by the sentence may correspond to a fact in the external world on account of necessity in external circumstances, or will, outside of that of the actor, as in the 9th sentence. If the verb shows that this relation exists between the thought expressed by the sentence and the fact, or reality in the external world, we say the verb is imperative mode.

The children may thus be led to make definitions. Then ask them to write all they know about mode. Correct the papers carefully and have them rewritten.

HISTORY.

1. What were the remoter causes of the Mexican War? What is the judgment of disinterested nations as to the justice of that war?
2. Give a sketch of the career and an estimate of the character of Aaron Burr. What have you read on this subject?
3. Would you have your classes study English history before attempting American history? Why?
4. What has been the effect of a decreasing passenger rate on the American railways? Discuss fully.
1. The remoter causes of the Mexican war were:
 - a. A difference in the political and industrial life which developed between the northern and southern sections of the States, and, as a consequence between these two sections of western territory

- b. A decrease in the population of the South relative to that of the North from the beginning of the nineteenth century down to about 1840, on account of the growing influence of slave-labor in the South. This fact led the South to lose its power in a large measure, in the House of Representatives, and, as a consequence, to make all the more strenuous efforts to retain its power in the Senate of the United States. In order to do this it was necessary to erect new states in the West. Hence, it became necessary for the South to struggle for the possession of Texas.

Disinterested nations regard the Mexican war as having been commenced and prosecuted without a just cause.

2. Aaron Burr received, while young, a fine university education in the East, and early in life became a prominent lawyer and politician in the state of New York. He was elected Vice-president to serve with Thomas Jefferson, after which he retired to New York and became a candidate for Governor. He was defeated for this position through the influence, as he believed, of Alexander Hamilton, whereupon he challenged Hamilton for a duel and killed him. After this he lost both in political favor and in the general estimation of the public. He became engaged in explorations of our then sparsely settled western territory, down the Ohio river and the Southwest. He was accused of conspiring with others to draw the Southwest away from the United States, and set up an independent government therein for himself. He was arrested and tried for these offenses on the charge of treason before the United States court, but he was not convicted. He then returned, almost entirely without friends and without influence, to New York City, and attempted to practice his profession, but he never gained the confidence of his country or his party afterwards, and he died in misery and poverty in the early part of the present century.

3. Classes should study English History before attempting to study American history, because American history is the outgrowth and development of ideas which are rooted in English history. The political, religious, industrial, social ideas, customs and habits of the American people are but the fruitage of similar ideas, which, for hundreds of years were gradually developing in England before the discovery and settlement of America. By this method of approaching American history the breadth of view, broader culture and understanding and appreciation of

passenger rate on

the American railways has been, in the first place, to largely increase the amount of travel. This, in turn, has increased the income of the railroad companies and has led to better facilities of communication. This better communication amongst the people has affected every phase of their life,—their political, social, educational, industrial, and even their religious life. The railroad has been one of the most powerful agents in making us an organic nation, ruled under one Constitution.

PHYSIOLOGY.

(Any seven.)

1. Name some cases in which your own person or that of a pupil may be utilized for the purpose of experiment or observation.
2. What features are essential in any system of physical training to render it popular and beneficial in our schools?
3. Describe the digestive tube as a whole.
4. How does blood look under the microscope?
5. What are the chief dangers from impure air?
6. Explain one source of injury to the nervous system?
7. Describe briefly the organs of speech.
8. What are the three great organs of excretion? Describe one of them.
9. What four things have happened to a person nearly dead from drowning? What must be done to resuscitate such a person?

1. The best opportunities to utilize your own person, or that of a pupil for physiological experiment and observation are afforded in the study of the special senses.

3. The digestive tube is a long canal (20 feet about) composed, with local exceptions, only of four coats; an outer serous coat, a muscular coat, of longitudinal and transverse fibres, a submucous coat, and finally a mucous coat carrying the secreting glands, the gastric glands in stomach, the crypts and villi in the small intestine, and the mucous glands of the large intestine.

4. Under the microscope blood is seen to contain two kinds of corpuscles. The abundant kind is the red corpuscle, disc-shaped, doubly-convex without nucleus, and appearing rather yellowish. The other, or white corpuscle, is whitish, granular, exhibits on a warmed stage amoeboid movements and contains a nucleus.

5. The chief danger from impure air lies in the breathing-in of organic particles exhaled from other lungs, which particles are usually of a very poisonous nature, and frequently consist, to a large extent, of disease-producing germs. Incidentally, impure air denies one the full amount of oxygen, which has been replaced in it by carbon dioxide.

7. The organs of speech are the mouth, with the tongue, teeth, palate and lips, and the voice-box with the two vocal chords. The voice-box is composed of several sets of cartilages so arranged that two membranous flaps may be stretched across it from front to back. By the varying tension of these chords the pitch of the voice is produced.

8. The three great organs of excretion are the skin, kidney and lungs.

The skin consists of an outer layer, the epidermis, and the deeper dermis. The epidermis is wholly cellular, carries the pigment of the skin when present, gives rise to nails and hairs, is devoid practically of blood vessels and serves as a protective membrane.

The dermis is wholly fibrous, consisting of areolar tissue with imbedded muscles (to move hairs), glands, blood vessels, and nerves. Among the glands in it are the long-coiled tubular sweat-glands, which, through their spiral duct through the epidermis excrete water, mineral salts, and traces of *urea*.

ARITHMETIC.

1. Divide $6 \cdot 12 \cdot 15 \cdot 36$ by $3 \cdot 4 \cdot 5 \cdot 48$. What principle is involved in this problem? Write full explanation.
2. What use would you make of division in teaching fractions? Discuss fully.
3. Two boys counting their money found that one had $\$ \frac{3}{4}$ and the other $\frac{2}{3}$ as much. What part of a dollar had each? Let the solution of this correspond to the grade in which such work is found.
4. Give analysis of the following: $\frac{3}{4} \div \frac{2}{3} = \frac{9}{8}$.
5. What are the measures of area? Indicate some "busy work" suitable for a first year pupil in the study of area.
6. Three pounds of sugar are needed for canning 5 quarts of strawberries; how many pounds of sugar are required for $8 \frac{1}{2}$ bushels of berries?
7. 20% of the selling price is loss, what is the rate of loss? Make a concrete problem requiring the same solution. Solve and prove the solution.
8. Two dimensions of right-angled triangles being given as follows, find the third dimension:

Base.	Perpendicular.	Hypotenuse.
$11 \frac{1}{2}$	$\frac{3}{4}$	$11 \frac{1}{2}$
9	$\frac{3}{4}$	$8 \frac{3}{4}$
$21 \frac{1}{2}$	$\frac{3}{4}$	$12 \frac{1}{2}$
$81 \frac{1}{4}$	11	$12 \frac{1}{2}$
$\frac{3}{4}$	$7 \frac{1}{2}$	$12 \frac{1}{2}$

9. Discuss the arithmetic work of the first three years in the State Manual.
10. What are the ends to be secured in teaching arithmetic?

1. To solve this problem it would be best, or at least it would be shortest, to use cancellation as follows:

$$\frac{6 \times 12 \times 15 \times 36}{3 \times 4 \times 5 \times 48} = \frac{27}{2} = 13 \frac{1}{2}$$

The principle involved is,—Dividing any factor of a product, divides the product by that same number.

2. In fractions division should be made use of in so far as the meaning of every fraction is that it indicates that the numerator is to be divided by the denominator.

3. 1st solution:

If one boy has $\$ \frac{3}{4}$ and another has $\frac{2}{3}$ as much, the second boy has $\frac{2}{3}$ of $\$ \frac{3}{4}$ or $\$ \frac{1}{2}$. ($\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$).

2nd solution:

$\$ \frac{3}{4} = 75$ cents.

$\frac{1}{2}$ of 75 cents = 15 cents.

$\frac{2}{3}$ of 75 cents = 3 times 15 cents.

3 times 15 cents = 45 cents.

45 cents = $\$ \frac{1}{2}$ or $\$ \frac{1}{2}$.

\therefore second boy had $\$ \frac{1}{2}$.

4. (a)

$\frac{3}{4}$ divided by $1 = \frac{3}{4}$.
 $\frac{3}{4}$ divided by $\frac{1}{4} = 7$ times $\frac{3}{4}$.
 7 times $\frac{3}{4} = 2\frac{1}{4}$.
 $\frac{3}{4} \div \frac{1}{4} = \frac{1}{2}$ of $2\frac{1}{4}$.
 $\frac{1}{2}$ of $2\frac{1}{4} = 1\frac{1}{4}$ or $\frac{5}{4}$.
 $\therefore \frac{3}{4} \div \frac{1}{4} = \frac{5}{4}$.

(b)

$\frac{3}{4} \times 1 = \frac{3}{4}$.
 $\frac{3}{4} \times \frac{1}{2} = \frac{1}{2}$ of $\frac{3}{4}$.
 $\frac{1}{2}$ of $\frac{3}{4} = \frac{3}{8}$.
 $\frac{3}{4} \times \frac{2}{3} = 5$ times $\frac{1}{4}$.
 5 times $\frac{1}{4} = \frac{5}{4}$.
 $\frac{3}{4} \times \frac{2}{3} = \frac{5}{4}$ or $1\frac{1}{4}$.

The principle involved in the first problem is: The quotient bears the same relation to the dividend that unity bears to the divisor. The principle involved in the second is: The product bears the same relation to the multiplicand that the multiplier bears to unity.

5. Our measures of area are, the square inch, square foot, square yard, square rod, acre and square mile. Some busy work would be to mark off a number of square inches on a piece of paper and cut them out.

6. If 3 lbs. of sugar are needed for canning 5 quarts of strawberries 1 qt. of berries would require $\frac{2}{5}$ of a lb. of sugar.

$3\frac{3}{5}$ bushels—116 qts.

If 1 qt. of strawberries requires $\frac{2}{5}$ of a lb. of sugar, 116 qts. will require 69 $\frac{2}{5}$ lbs.

7. If 20% of the selling price loss, the cost price—120% of selling price. Then the selling price $83\frac{1}{3}\%$ of cost price ($100 \div 120 = 83\frac{1}{3}$).

Problem—A man bought a carriage for \$100 and sold it losing 20% of selling price. What did he sell it for?

\$100 = 120% of selling price, then the selling price = \$83 $\frac{1}{3}$. Now the test is, will 20% of \$83 $\frac{1}{3}$ give the loss or difference between \$100 and \$83 $\frac{1}{3}$.

\$100 — \$83 $\frac{1}{3}$ = \$16 $\frac{2}{3}$.

20% of \$83 $\frac{1}{3}$ = \$16 $\frac{2}{3}$.

8.	Base.	Perpendicular.	Hypotenuse.
	1 $\frac{1}{2}$	2	? (2 $\frac{1}{2}$)
	9	? (6 $\frac{3}{4}$)	11 $\frac{1}{4}$
	2 $\frac{1}{2}$	? (3)	3 $\frac{1}{2}$
	8 $\frac{1}{2}$	11	? (14 $\frac{1}{2}$)
	? (10)	7 $\frac{1}{2}$	12 $\frac{1}{2}$

9. The State Manual provides for the teaching of the numbers from 1 to 100 inclusive during the first 3 years. During the first year they are to be taught from 1 to 10 inclusive, during the second year they are to be taught from 11 to 20 inclusive, and during the third year they are to be taught from 21 to 100 inclusive.

The work is begun in the concrete with certain

objects of certain forms, and by the end of the third year considerable work is done in the abstract. During all the three years, all the numbers taught are taught in their relations to one another, and in their applications.

10. The ends to be obtained in teaching are of two kinds:

1st. The ends as to knowledge.

2nd. The ends as to discipline.

The teacher should aim to give the pupil a correct understanding of the principles of arithmetic, and if he knew just what the pupil would be expected to do he could bend his instruction in that direction.

The teacher should further aim to cultivate in the pupil the habit of correct thinking and emphasize the phase of accurateness, for especially is mathematics adapted to impress one with the idea of extreme accuracy.

READING.

(Any five, not omitting 6.)

1. What should a child of average ability under a faithful and efficient instructor accomplish in reading during his first year's attendance at a well graded school?
2. What would you hope to have the same child accomplish during his second year under similarly favorable circumstances?
3. Name the titles of two books that you would recommend as supplementary reading matter for first year grades; two others that you deem suitable for second grades.
4. What would you suggest as appropriate matter for the teachers of these respective grades to read occasionally to their pupils? What is the pedagogical purpose of such reading?
5. If you would drill the pupils of either of these grades in phonics, state how early you would begin such drill and state your reasons for so doing.
6. (a) What is the scope of the work for first third of the first school year in reading as given in the State Manual? (b) Name as many as five of the points to be considered in the presentation of reading lessons as given in the State Course of Study, second year.

1 and 2. The first and second questions do not admit of anything like a definite answer. The only answer that could be in any wise complete would be a simple enumeration of all the items that enter into the work of the first two years in reading. In a very general way it can be said that the purpose of the first work done in reading is to give the child a vocabulary. He is to be furnished with the means by which he can interpret discourse. The work in the second year is similar to that of the first, but increases in difficulty along with the development of the pupil. It is thought, also, that in the second year's work selections more nearly literary in character may be introduced. Very little of this can be done in the first year's work, the reading lessons there being for the most part the simplest statements and stories.

3. Some of the recent primers, such as *Our Book for Little Ones* (American Book Co.), *The Werner Primer* (Werner School Book Co.), the early numbers in the *Cyr* series (Ginn & Co.), will furnish some valuable material.

4. It is difficult to suggest matter that is especially appropriate, but amongst other things selections taken from periodicals like *Wide-Awake*, or the children's page of *The Youth's Companion*, or some such source, would be good. Many of the myths and fairy stories can also be arranged for reading to the children, and many good teachers practice reducing the great authors to a form suitable for presentation to the children. The purpose of all such reading is to create in the children an interest in reading, give them the power of appreciating a wide range of material, and to add to their general culture and knowledge.

5. If any drill in phonics is given in either grade it should perhaps be in the second, and its object would be to give the pupil the power of getting at the pronunciation of words through the sound values of their component parts.

6. (a) According to the State Manual, the scope of the first third of the first school year in reading is, "Building of a vocabulary of words considered under the following points, using The Indiana First Reader to about Lesson fourteen as a basis: 1. The association of the written or printed word with the idea for which it stands. 2. Analysis of the written or printed word into its sounds. 3. Analysis of the written or printed word into its symbols standing for the separate sounds of the spoken word."

(b) 1. Pupils should image clearly the pictures presented by the selection. 2. Should see, if possible, the point of unity in the selection, or the central thought. 3. They should see any incidental life lessons suggested. 4. Taste is to be cultivated in the selection of the finer thoughts. 5. Careful interpretative reading of the selection.

GEOGRAPHY.

(Any five.)

1. Give the shape of the earth in geometrical terms; difference of its diameters, and five proofs of its rotundity.
2. What are zones? How determined?
3. What should be the aim of map drawing in the study of geography? Of the use of the sand box and the moulding board?
4. What common agricultural products were not known to the world until the discovery of America?
5. Through what waters would you pass in the shortest all water route from Liverpool to Bombay?
6. What five great religions had their origin in Asia? State briefly the leading tenets of these religions.

1. An oblate spheroid. Twenty-six miles. (1) Curvature observed at sea; (2) circumnavigation; (3) rise or fall of stars with change of latitude; (4) actual measurement of an arc; (5) circular shadow on the moon.

2. Belts surrounding the globe. The mathematical zones are determined by the inclination of the earth's axis, the climatic by that and many other conditions; as, winds, ocean currents, nearness to the sea, etc.

3. To help the student to form a definite mental

picture of any portion of the earth's surface. To emphasize in the mental picture the relief of the surface; i. e., to picture it as a solid.

4. Indian corn, potatoes, tobacco.

5. The Mersey River, Irish Sea, St. George's Channel, Atlantic Ocean, Strait of Gibraltar, Mediterranean Sea, Suez Canal, Red Sea, Strait of Babelmandeb, Gulf of Aden, Arabian Sea.

6. This question is not geographical, unless some relation can be shown between the physical character of Asia and the rise and characteristics of these religions. It is impossible to "state briefly the leading tenets" of some of them.

Judaism.—One personal and righteous God.

Christianity.—The fatherhood of God and the brotherhood of man. Jesus Christ the Son of God.

Brahmanism.—One impersonal God, acting through the trinity, Brahma, Vishnu and Siva.

Buddhism.—A reform of Brahmanism through the revelation of Gautama Buddha, who taught that existence is evil, and the source of evil is desire.

Zoroastrianism.—The conflict of Ormuzd, the Good One, and Ahriman, the Evil One.

Mohammedanism.—There is no God but God, and Mohammed is his prophet.

Lucky is the boy who can say, "In the bright lexicon of youth there is no such word as fail." Out upon weathercock men, who change with every wind! Give us men like mountains, who change the winds. You cannot at one dash fly into eminence. You must hammer it out by steady and rugged blows. A man can get what he wants if he pays the price—persistent, plodding perseverance. Never doubt the result. Victory will be yours. There may be ways to fortune shorter than the old dusty highway, but the stanch men in the community all go on this road. If you want to do anything, don't stand back shivering and thinking of the cold. Jump in and scramble through. Push and pull.—*Ec.*

Two notable Child-Study meetings have been held within the past two weeks. The Fourth Annual Congress of the Illinois Society for Child-Study, held at Chicago the last week in April, had present Col. Parker, Dr. Colin A. Scott, Rev. Gunsaulus, President Hervey, Dr. Bryan, President Hall, Professor Dewey and many others. The Child-Study Congress held at Bloomington, Indiana, the first week in May, announced Professor Thurber, Professor Sandison, Dr. Krohn, Dr. Hall, Superintendent Millis, Mrs. Campbell, Superintendent Moore and others. We shall give an account of these meetings in our next number.

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IV.

ONE DOLLAR A YEAR

No. 5

THE INLAND EDUCATOR

A JOURNAL FOR THE PROGRESSIVE TEACHER

EDITED BY

FRANCIS M. STALKER AND CHARLES M. CURRY

JUNE, 1897

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THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

VOL. IV.

JUNE, 1897.

No. 5.

CRATER LAKE.*

BARTON WARREN EVERMANN,

Ichthyologist, United States Fish Commission.

ON the crest of the Cascade Mountains in Southwestern Oregon is, in many respects, the most wonderful lake in the world. This is Crater Lake, and it lies in the top of Mount Mazama.

To reach Crater Lake one must leave the railroad at Ashland or Medford and travel by wagon road 100 miles northeastwardly. This road is a long one, with many hills to cross, and dust and rocks everywhere, but the trip is more than worth the making.

It was my good fortune to make this journey last August as the guest of the Mazamas, a prosperous club of jolly mountain climbers with headquarters at Portland, Oregon.

We started from Ashland—forty odd of us, of whom a third were ladies—in strong wagons and equipped for camping.

Four or five started out on their wheels. The usual haps and mishaps occurred, of course, thereby adding spice and variety to the journey. One of the wagons broke down, and all the bicycles soon became a burden and had to be either pushed laboriously or loaded upon the wagons. But the trip would have been less interesting had it been otherwise.

We camped, our first night out, on Dead Indian Creek, and drank Dead Indian milk

and ate Dead Indian butter, because they were better than the Ashland product.

Then we travelled on, spending three days on a side trip to the summit of Mount Pitt, while those who could not climb mountains on Sunday spent their time fishing at Pelican Bay. And when we tried to fill them with regrets by telling of the glories of Mount Pitt which they had missed, they dwelt enthusiastically, and in the regular worldly way, upon the delights of (Sunday) fishing in Pelican Bay. And we loved them all the more because their acts were better than their creed.

The pleasures of the journey were many, but at this time I desire to write only of the lake and our stay upon the brink of the mighty wall which hems it in.

On the summit of the Cascade Range, and in the top of one of its most interesting peaks, lies Crater Lake. The top of this mountain—recently christened Mount Mazama—is 8,228 feet above the sea, and in it rests the strange lake whose surface is nearly 2,000 feet below the wall which surrounds it. Thus the lake lies in a great pit in the mountain's top, and can be reached only by scrambling nearly 2,000 feet vertically downward on a trail that is not far from perpendicular.

The average diameter of the top of the pit is nearly six miles, and that of the lake is but little less. The depth of the great



CRATER LAKE—WIZARD ISLAND, DEVIL'S BACKBONE AND CLAY ROCK IN THE DISTANCE.

pit is 4,000 feet, and the depth of the lake is 2,000 feet. From this it is seen that the pit is filled with water just half way to the top. The bottom of the pit is 100 feet lower than the level of the Klamath marshes at the eastern foot of the Cascade Range. Thus, if there were a subterranean opening

connecting them the Klamath Lakes would not completely drain Crater Lake. In the deepest part of Crater Lake the bottom was found to be nearly a level plain several miles in extent. As described by Professor Diller of the United States Geological Survey, to the westward this plain rises irregu-



MAPS SHOWING ROUTES TO CRATER LAKE.

larly, culminating in two or more peaks, one of which reaches above the water's level and forms Wizard Island; the others lie completely buried in the lake.

But to understand the unique character of this lake it is necessary to consider briefly its geologic history. In the first place, the region is a volcanic one. All the mountain peaks of the Cascade Range, from Shasta to Ranier and beyond, are volcanoes

but recently extinct. All the mountain slopes and table-lands are made up of immense lava flows. Shasta's summit is 14,444 feet above the sea and Ranier's is scarcely less. Between them are several great mountains, such as the Three Sisters, Jefferson, and Hood, but none is as high as they.

But when the fires were still glowing in this volcanic chain, there stood where Crater



RIM OF CRATER LAKE IN THE DISTANCE, AS SEEN FROM THE SOUTH, ACROSS THE CANYON OF ANNA CREEK.

Lake now lies a great, fiery volcano, the peer in size of any of those now left. The evidence is almost, if not entirely conclusive that this mountain must have been more than 14,000 feet high. It is certain that it was a volcano, and active during glacial times. But a time came when a great change was wrought in this mountain. Instead of flowing out at the crater or breaking through the sides as it had long done, the lava finally found an exit at some lower level. So great was the outflow through this new channel that the mountain became hollowed to a shell. The top of the mountain being left comparatively without support, fell in and became engulfed in the great cavern. Thus, more than 6,000 feet of the top of the mountain disappeared, leaving a truncated cone a little more than 8,000 feet in height and about six miles in diameter at the top. Lying in the top of this truncated cone is the great pit 4,000 feet deep and just half filled with water, as already mentioned.

The lake has practically no shores, for the lava wall which hems it in rises nearly vertically, not only from the water's edge, but from far beneath its surface. This wall ranges from 500 to 2,000 feet in height above the lake, and so nearly vertical is it that there are only two or three places where it is possible to descend to the water.

In the lake are two islands: One of these is called the Phantom Ship. It is a small rocky islet in the southeast part of the lake, and resembles in a wonderful manner a ship with its masts



GLACIATED CREST OF RIM OF CRATER LAKE.

and spars. In clear sunlight it is distinctly seen, while at other times it appears but dimly or not at all. The other island is in the western part of the lake and is known as Wizard Island. It is two miles distant from the foot of the trail by which the water is reached from the rim above, and is a cinder cone of remarkably fresh appearance. It is quite symmetrical,

and rises with a very steep slope on all sides to a height of 845 feet above the surface of the lake. In its top is a bowl-shaped crater 80 feet deep, on the south half of which lies a bank of snow which the summer sun never entirely succeeds in melting.

Between Wizard Island and the south



SNOWDRIFT IN THE CRATER OF THE CINDER CONE ON WIZARD ISLAND.

shore is another cone which rises from the bottom of the lake to within ninety-three feet of the surface of the water.

Crater Lake has neither inlet nor outlet so far as known. The precipitation in that region is believed to be somewhat greater than the evaporation, and it is not unlikely

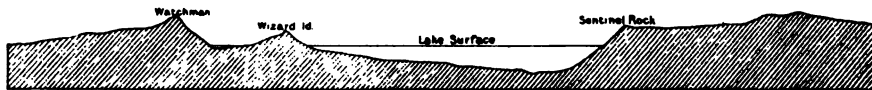
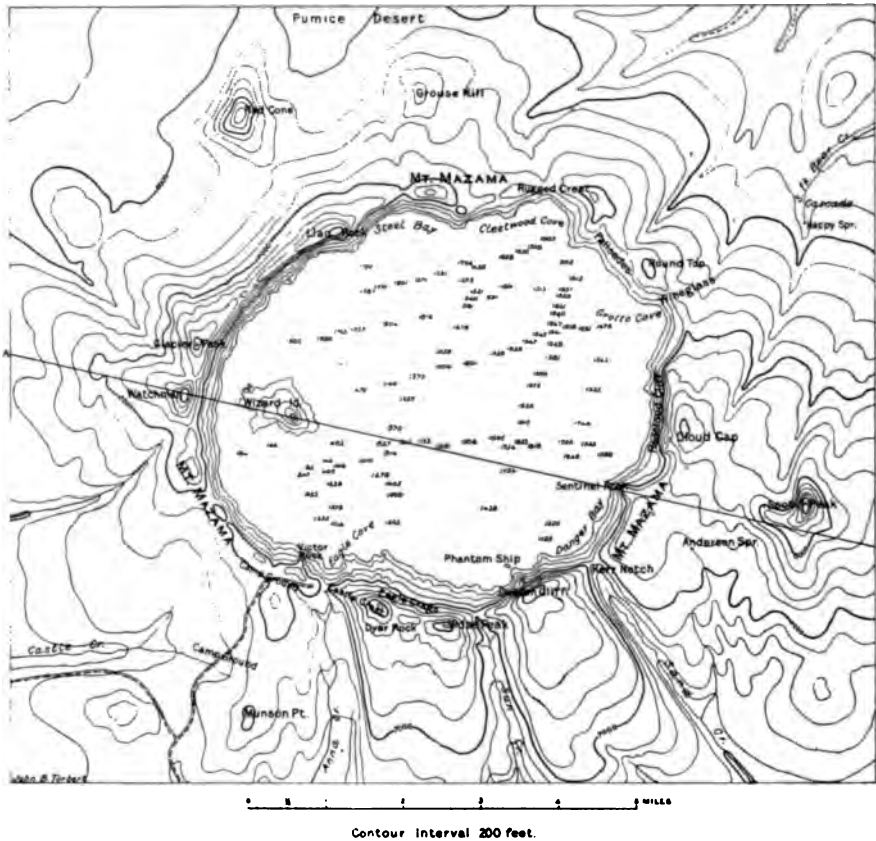
that there is a subterranean outlet. The water is pure and sweet and of remarkable clearness. An ordinary dinner-plate let down to a depth of ninety-three feet could be easily seen.

When the surface is not disturbed, the reflection or mirror of the surrounding wall and Wizard Island is one of fascinating beauty.

Though remarkably clear, the water of Crater Lake is



SOUTHERN SHORE OF CRATER LAKE, AS SEEN FROM KERE NOTCH. DUTTON CLIFF ON THE LEFT; EAGLE CRAGS AND CASTLE CREST BEYOND

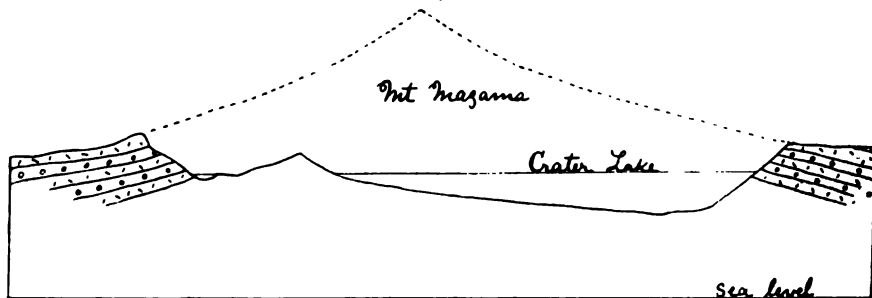


MAP OF CRATER LAKE.

the most wonderful blue, the *bluest* blue I have ever seen. It is doubtful if there is anywhere else in the world a lake so marvelously beautiful in color-effect. In the deep parts the color is richer than the bluest indigo. Where the water is less deep, and in the changing light and shadows of

the clouds, the colors change from ultramarine through cobalt and azure blue to smalt blue and hyacinth, and even to royal purple, violet and mauve. So wonderfully and strangely beautiful are these colors that one never tires watching and studying them.

Temperature observations made by Pro-



PROBABLE OUTLINE OF MT. MAZAMA.

fessor U. O. Cox and myself at the lake proved extremely interesting. On August 22 the temperature of the surface near the center of the lake at 1 P. M. was 61° Fahr.; at a depth of 555 feet it was 39°; at 1,040 feet it was 41°; and at 1,623 feet (which was at the bottom in that place) it was 46°. From this it appears that the line of greatest cold is neither at the surface nor at the bottom, but at some intermediate depth; and the conclusion is almost irresistible that the lava forming the bottom of the lake has not yet entirely cooled but continues to give off heat to the water. These observations are of unusual interest but must be repeated before they should be accepted as final.

Crater Lake, of course, contains no fishes; lakes without inlets or outlets seldom do, for fishes naturally get into one body of water only by swimming to it from some other body of water with which it is connected. Breaks in water continuity, or considerable

falls, are absolute barriers beyond which fishes can not go. So it is with Crater Lake. Though the water is suitable, and was found by us to contain an abundant supply of excellent fish-food, consisting chiefly of small crustaceans and insect larvæ, there are no fishes to feed upon them.

The gratifying success which has attended the efforts of the United States Fish Commission in stocking barren waters elsewhere, notably Lewis and Shoshone lakes in the Yellowstone National Park, gives good reason for believing that similar results will follow the stocking of Crater Lake with trout.

Such is Crater Lake, easily one of the greatest natural wonders of the world.

Among the places in the United States of greatest scenic and scientific interest I would name the Yellowstone National Park, the Grand Canyon, Crater Lake, and Yosemite; and Crater Lake is not the least of these.

WASHINGTON, D. C.

THE RELATION OF THE PUBLIC SCHOOLS TO THE HEALTH AND DEVELOPMENT OF THE CHILD.—II.*

WALKER SCHELL, M. D.

Care of Defectives by the Schools.

THE modern, progressive teacher touches, in many ways, the field of psychological medicine. Indeed, one of the most brilliant chapters of medicine and pedagogy is the joint effort of two enlightened professions to improve the sad condition of those mentally defective. The schools still pursue the policy of Sparta to a great extent; but bold, humane and highly-trained teachers are grappling with the problem how best to deal with physical, mental and moral defects in children.

The first attempts to train those profoundly defective were made in France by

the celebrated alienist, M. Seguin, at the Bicêtre.

This was followed by the efforts of Dr. Guggenbühl at Abenberg in Switzerland.

Germany then took up this work and highly creditable schools were founded at Berlin and Leipzig.

These movements excited the attention of the philanthropists of the world, and the late Dr. Wilbur entered upon this work in America.

Children have all grades of mental capacity. There are as various capacities, mental and moral, among the children in the ward schools of our city as are outside carry-

*Dr. Schell's first article will be found in vol. III, p. 188.

ing forward our various enterprises. No particular system of pedagogical methods will fit the physical, mental, and moral needs of all these children. Many defectives cannot be satisfactorily dealt with in our common schools as at present conducted. This does not prove that they should not receive attention, and that special schools would not prove beneficial to the common schools and discharge an important state duty.

It is estimated that as high as five per cent. of the school population belongs to the defective class. It is this five per cent. that is poorly taught in our schools, and, indeed, from the very nature of their defects many cannot be taught at all. There is scarcely a school-room without defective pupils. Some have defects of sight, others of speech and hearing.

Many are nervous, sensitive and restless, so that a teacher cannot gain their attention. The memory may be feeble, and the powers of intellect so limited as to exhaust the patience, and overtax the energy of the teacher, having other duties to perform. At the Ninth International Medical Congress, Dr. Francis Warren of London, England, made a special plea before the Section on Psychological Medicine for the *Examination of the Brain Conditions of Children*.

Much may be learned from children that will aid us in understanding the many complex problems of mind. If the physician is to select the mentally defective children who demand, and should receive, special training, he must have a wide knowledge of the child's development, so as to quickly and certainly detect defects. These children are usually physically defective. The mind first expresses itself by movements. In many animals motion is the only manifestation of mind. Defects of motion, therefore, at once fix the attention of the physician. We at once observe the posture, mode of locomotion, the balance of muscular action, for indications of defective physical and consequent mental inferiority. Mental develop-

ment stamps itself in physical organization. The mortality of backward children is high because the brain is feebly developed.

Ill-directed efforts on the part of zealous teachers may be fraught with such disaster to the pupil, that I deem it my duty to point out some physical defects easily recognized by an observing person, which indicate the possession of a feeble mind. When the cranium is shaped like the prow of a ship, especially marked along the line of the medio-frontal suture, which indicates the division of the bone originally into two halves in foetal life, we have a neurotic child with which to deal. This shape of the cranium is brought about by arrest of development of the bone, and late or deferred ossification. Now you will easily understand that the same causes which act in such a marked manner upon the development of the cranium also spend their blighting influence on the frontal lobes of the brain. This is so well known, that in all great clinics, these individuals are shown as examples of the neurotic cranium, because they are frequently affected with nervous diseases. At the times of first and second dentition, and the critical period of puberty, this not uncommonly precocious child is liable to break down and become the *enfant terrible* because these children are given to petulance, violence and the destructive mania, and easily fall into serious nervous diseases, such as chorea, epilepsy, loss of speech and developmental feeble-mindedness or idiocy. At such times over-pressure should not be resorted to in the schools, and the parents should listen to the advice of some wise physician. Every child with defects of speech, stammering, excessive nervousness, or with a history of having had convulsions, should not receive the ordinary grade work of the schools unless some careful physician has given his consent—a thing he is not likely to do. In young children of the neurotic temperament, the signs of over-strain should be anxiously sought and heed given. When children appear wearied and muscular

twitchings and stammerings occur, they should be sent home with a suggestion that the case be presented to a physician.

A child within my knowledge, with two considerable tubercular tumors in the cerebellum much improved during the summer vacation, but returned to school in the autumn, to die from rapid spread of the infections in a few weeks.

A child with dolichocephalic head (from *δολιχός*, long, and *κεφαλή*, the head), with an history of unusual precocity, was during the period of second dentition, subjected to over-pressure by her teachers, aided and abetted by parental encouragement, and is now a patient with epilepsy taking on the look of intellectual vacuity. A lad once

my patient with a history of slowness of acquiring speech was encouraged to study hard at night by an unwise father in order to remedy a supposed slowness of intellect, and is now falling into accidental or acquired mental feebleness, or perhaps to put it more bluntly, into idiocy. This lad had an opposite type of cranial defect, the brachycephalic head (from *βραχύς*, short, and *κεφαλή*, head) short head.

It is needless to say that every physician could give many examples of unwise grade work given to defectives at critical life periods. These children are worthy of the very kindest and most considerate treatment and are entitled to such development as nature will permit.

TERRE HAUTE, IND.

MODERN SANITATION APPLIED TO SCHOOLS.

SEVERANCE BURRAGE, S. B., (M. I. T.)

Instructor in Sanitary Science, Purdue University.

THE greater attention that is being paid to the construction of our public school buildings as regards heating, lighting, ventilation and general sanitary conditions is one of the most gratifying signs of progress in modern education. We are beginning to realize the importance of caring for the body as well as the mind; that neither can be neglected and give the desired results. It is oftentimes said that too much fuss is being made over various matters which our forefathers did not think worth considering, and, indeed, this may be true in a few instances where principles are concealed by undue and undesirable prominence to details. But the advance made during the last few years in medicine and bacteriology has entirely revolutionized our ideas of, and attitude towards, contagious and infectious diseases. We no longer believe that typhoid fever and the other epidemic diseases are visitations of Providence upon us as a punishment for such sins as breaking the Sabbath, or swearing. They come as the direct result of unclean living, of unhealthy surroundings, or of drinking impure water, and therefore are the natural punishment for breaking the simple laws of sanitation.

Living "germs," the smallest of plants, are

known to be the cause of many diseases. The conditions which favor their growth and spread have been carefully studied, as have also the most effectual means of killing them. And from such investigations as these, it is known that to a very great extent, epidemics are preventable. Consumption, while not occurring in what we ordinarily call epidemic form, carries off about one-seventh of the members of the human family. We know that it can be spread only through the agency of the *tubercle bacillus*, the germ of the disease, and consequently every possible precaution is being taken to check its ravages. But with the proper attention to water supply, foods, construction and location of buildings, and perhaps the most important of all, the care of the body itself,—with all of these precautions little need be feared from these "microbes."

But, in connection with school children, we are considering the welfare of those who, in most cases, are not old enough to judge for themselves of the immediate dangers or damages to their futures that are engendered by unhealthy surroundings and careless living. The pupil spends an important proportion of his time in or about the school-building, and this at a most critical period of life

—that of rapid growth. It is then that the body becomes erect or round-shouldered; the spine straight or curved; in fact, then is the time in which the body is truly molded and hardened. And in how many of our public schools could we say that the conditions were better for the children there than at their homes? Again, do we not often find the authorities worrying and discussing about how much work should be crowded into the pupil's day, and what subjects must be given during the first, second, or last year, and in what order these subjects should come, and so on? And yet with all of this cramming of school work on the children, are not unfavorable sanitary conditions also forced upon them? Is the best attention always given to the water supply of the school, and are the water closets or privies always given the proper care? It seems to me that much of the nervous tissue of the committees and school boards could be spent to better advantage in a good many cases, by studying into possible and necessary sanitary improvements, the questions of hygienic rules, and the proper methods of carrying them into effect. It is far more important that the pupil should enter the great battle of life armed with a vigorous, healthy, sound body, than to have had a university course crammed into a high school career at the expense of good eyes, a straight spine or a generally healthy body.

The child, moreover, is subject to various diseases during its school life, many of them contagious. Diphtheria and scarlet fever are perhaps the most to be dreaded of these, the former for its fatality, and the latter for its oftentimes serious after-effects, such as deafness or weak eyes. Children should not be exposed to these or any other dangerous diseases at the public schools. They ought to have an environment in keeping with all the requirements of a healthy body. They should have, above all, good air, plenty of out-door recreation, rooms not over-heated, and, a point often overlooked, they should never be allowed to remain at school if they have gotten their clothes or feet wet *en route*, unless the facilities for drying them are exceptional. The sound body, as has been said above, is not a good soil for most of the disease germs; but unfortunately it is impossible to keep large classes of children in an ideal state of health. Therefore, every precaution ought to be taken to prevent these pathogenic bacteria getting from one child to another, should a sick child gain access to the school-room.

The Indiana State Board of Health has attempted to lessen these dangers by promulgating a set of rules for schools which are very commendable, and if properly enforced would materially lessen the sickness and deaths among our school-

children. In many respects, however, these rules are so radical that they do not meet with the general approval that would insure their widespread adoption and success. This is particularly true in the older schools, many of which feel that they have gotten along very well for a score of years or more, and rather scorn an innovation of any kind. But as education along this line spreads, teachers, school-boards and perhaps the scholars themselves, will see the necessities of such regulations, and it is only a question of time when such rules, now spoken of by many as "cranky," will be the common practice in public schools everywhere.

In Michigan, the State Board of Health has gone at the matter in a different, and perhaps a more effectual way. In 1895 the legislature passed a law relative to "Teaching in the public schools the modes by which the dangerous communicable diseases are spread, and the best methods for the restriction and prevention of such diseases." The value of instilling into the minds of children these facts in a simple, interesting and forcible way, can but be very great and lasting. It is during these earlier years that the brain is more receptive, and will remember more vividly what it learns then. The Indiana Sanitary Rules for Schools, and the Michigan law, both being interesting and instructive, will be appended to this paper for the benefit of those who may not be already familiar with them. The states of the Middle West are not lagging behind in the matter of school sanitation; yet they are not so far ahead that they can afford to rest on their oars.

The latest step, however, and one which shows once more how much importance is being attached to the proper supervision of school children, has been taken by the New York City Board of Health. This board has appointed one hundred and thirty-four medical inspectors of school children, at salaries of thirty dollars a month, whose duty it will be to visit daily the public and private schools of the city, for the purpose of detecting cases of contagious diseases in the earliest stages, to keep such under their observation, and to visit all absentees from school to see whether they be sick with contagious disease. These inspectors were appointed for a year from the first of last January, and the Mayor, in his message of January 19th, said: "It is confidently believed that this measure will reduce the number of deaths from contagious disease, protect the children of the schools from contact with those already sick, and in many ways promote the public health and welfare."

Thus, each season shows some progress in this sanitary reform for schools. The subject formed an important feature of discussion at several recent

gatherings of superintendents and teachers. They appreciate that better work and better health result from good air, pure drinking water, and healthy surroundings generally. This applies to teachers and scholars alike. If the authorities could understand that money which they invest in sanitary inspection or improvements is not thrown away, but is actually drawing interest—an interest, the value of which can not be expressed in dollars and cents, for it involves the health and lives of hundreds of human beings—they certainly would be more ready to make the desired expenditures.

While there is much yet to be learned, and vastly more to be done, it is a matter for congratulation that we can report so much progress in school sanitation, and with continued judicious legislation and teaching it will be possible to stem the tide of the now widespread communicable diseases among school children. In this way can we lay the foundation and pave the way for a brighter and healthier posterity.

Special Rules governing the Sanitary Conduct of Public, Private and Parochial Schools in the State of Indiana, embodied in Health Circular No. 4, passed by the Indiana State Board of Health October 12, 1896.

RULE 1. All teachers of public, private and parochial schools, all county, city and town health officers and all school authorities shall refuse admittance to the schools under their jurisdiction of any person from any household where contagious disease exists, or any person affected with any evident or apparent communicable disease, or any person who may recently have been affected with diphtheria, membranous croup, scarlet fever, whooping cough, contagious skin disease, measles or other communicable disease, until first presenting a certificate signed by a reputable physician stating that danger of communicating such disease is past, and said certificate is approved and indorsed by the Health Officer in whose jurisdiction the person may reside.

RULE 2. School Commissioners, School Trustees in cities and towns, and Township Trustees, and all authorities governing private or parochial schools, shall have the school houses under their control put in sanitary condition before school is opened and kept so throughout the year. Floors shall be scrubbed, windows cleaned, desks and all woodwork washed with soap and water and treated with a disinfectant. Windows shall be in repair, so that ventilation may be made perfect. Heating apparatus shall be efficient and in good order and dirty walls and banisters made clean. Banisters and tops of desks shall be washed with soap and water and treated with a disinfectant once each week.

RULE 3. School Commissioners, School Trustees in cities and towns and Township Trustees shall provide small drinking cups not to hold over a gill. Buckets or pails to dip from are condemned, and reservoirs or tanks of ample size having large, easy acting, free flowing faucets shall be pro-

vided. When water is drawn direct from public water pipes or pumps, reservoirs or tanks are, of course, not required. Ample drainage facilities for waste water shall be provided and the pupils directed to allow the cups to flow over when the water is drawn. Drinking cups shall be cleaned and sterilized daily.

RULE 4. Slates are condemned. Paper tablets or pads, shall be used instead. Riveted metal boxes of tin or galvanized iron with hinged covers and of proper size, or other approved apparatus to subserve the same purpose, shall be provided for each school-room. These are to receive pens or pencils, which must be collected from the children each day, and shall not be again distributed until box or apparatus with the pencils and pens have been sterilized by heating in an oven at or above boiling heat for one-half hour. School Commissioners and School Trustees in cities and towns and Township Trustees are directed to enforce this rule.

RULE 5. Heating and ventilating shall be looked after with great care. Every school-room shall be provided with a thermometer and a temperature not exceeding 75° Fahrenheit, nor less than 65° be maintained during school hours. School Commissioners and School Trustees in cities and towns and Township Trustees are directed to enforce this rule.

RULE 6. Janitors, when sweeping, shall use damp sawdust or slightly sprinkle in order to prevent dust. Dusting shall be done with damp cloths. School Commissioners and School Trustees in cities and towns and Township Trustees are directed to enforce this rule.

RULE 7. The water supply shall be pure and wholesome, and closet or privy facilities shall be unobjectionable. School Commissioners and School Trustees in cities and towns, and Township Trustees are directed to enforce this rule.

RULE 8. Spitting on the floor of any school building is absolutely forbidden. Teachers and all school authorities are directed to enforce this rule.

RULE 9. School Commissioners and School Trustees in cities and towns, and Township Trustees, shall not employ teachers who are afflicted with pulmonary tuberculosis or any constitutional contagious disease; neither shall they permit pupils so affected to attend school, nor shall they permit filthy or unclean pupils to attend the schools under their control.

ACT NO. 146. LAWS OF 1896. MICHIGAN.

An act to provide for teaching in the public schools the modes by which the dangerous communicable diseases are spread and the best methods for the restriction and prevention of such diseases.

SECTION 1. *The People of the State of Michigan enact*, That there shall be taught in every year in every public school in Michigan the principal modes by which each of the dangerous communicable diseases is spread, and the best methods for the restriction and prevention of such disease. The State Board of Health shall annually send to the public school superintendents and teachers throughout this State, printed data and statements which shall enable them to comply with this act. School boards are hereby required to direct such superintendents and teachers to give oral and blackboard instruction, using the data and statements supplied by the State Board of Health.

SEC. 2 Neglect or refusal on the part of any superintendent or teacher to comply with the provisions of this law, shall be considered a sufficient cause for dismissal from the school by the school board. Any school board wilfully neglecting or refusing to comply with any of the provisions of this act, shall be subject to fine or forfeiture, the same as for neglect of any other duty pertaining to their office. This act shall apply to all schools in this State, including schools in cities or villages, whether incorporated under special charter or under the general laws.

"Man wants but little here below,
Nor wants that little long."

'Tis not with me, exactly so:
But 'tis so in the song.

My wants are many, and if told
Would muster many a score;
And were each wish a mint of gold
I still should long for more.

—JOHN QUINCY ADAMS.

THE STORY OF A BOULDER.—III.

PROFESSOR D. W. DENNIS.

At the roaring loom of time I ply
And weave for God the garment thou seest him by.

—Earth Spirit to FAUST.

The everliving everworking universe.—Carlyle.

The Review.

IN her March review, Miss B. gave a short lesson every afternoon for ten days; in these she directed attention to the *Glaciers of North America*, a book by Professor Russell of Ann Arbor, published recently, 1897, by Ginn & Co., and to *Elementary Geology*, a book by Professor Tarr of Cornell, published by The Macmillan Co. Professor Russell's book has twenty-two plates from photographs of North American glaciers, together with maps and illustrations of glacial phenomena. Professor Tarr's is briefer and simpler, but is also beautifully illustrated with photographs. They make the way to an understanding of glaciers as attractive as it can be made without a visit to regions where they may be seen. They describe as many "species" of glaciers as Rafinesque discovered of thunder and lightning in Southern Indiana, but they are all, as Miss B. explained, "moving ice masses, carrying with them on their journeys boulders, sand, gravel, clay, etc., and polishing grooving and striating the surface rock over which they move. When they reach the sea, before they melt and masses of ice break off from them and float away as icebergs, they are called tide-water glaciers. Muir glacier and a part of Malaspina glacier in Alaska are such tide-water glaciers. When glaciers melt before reaching the sea they become great soil-makers. Our North American continental glacier was this kind in Indiana. The vast quantities of morainal earth that it brought us have been modified by the waters that flowed away from the melting and retreating ice."

"We have seen," Miss B. continued, "that glaciers, like rivers, flow faster at the top than at the bottom; at the center than at the sides. When a glacier reaches a precipice, it, like a river, has falls; the ice breaks in large masses and falls down to the foot of the precipice, where the blocks freeze together again and the glacier flows on." At this point Miss B. performed an experiment in what she called regelation; she took two pieces of ice weighing several pounds each, and placed one on top of the other, and piled weights on them of seventy-five or one hundred pounds. After a few minutes she removed the weights, and the blocks of ice were frozen into one and it would not break, subsequently, along this line of regelation; when

struck with the edge of a hatchet along this line the fracture turned into another plane.

"When a glacier comes to a steep incline rapids are formed as in the case of a river. When Alpine or valley glaciers come out of the narrow valleys that confine them, they spread out over the adjoining plain just as water does when a river widens so as to become a lake, and as the flow of the water is very much slower in the lake, so the flow of the ice is very much slower in the plain. Many valley glaciers may thus unite to cover an adjacent plain. All this is true of the Malaspina glacier of Alaska. A glacier of this sort is called a piedmont glacier, and the body of ice in certain parts of a piedmont glacier may almost cease to move at all just as back-water in a river or lake may become almost still. Surface melting at such quiet points on the ice field will cause moraines to accumulate on the surface, and it sometimes happens that a forest grows up, thus, on the field of ice. There are 12,000 acres of such forest on the Malaspina glacier. Such a forest once hovered on the edges of our Indiana glacier here at Richmond," and Miss B. sustained this statement with a dozen large pieces of cedar wood recently washed out from a clay bank of drift close by the boulder whose story she was giving. (The Malaspina forest, and many other points were illustrated from the photographs of the books cited above.)

"For the explanation of our Indiana boulder journeys a continental glacier helps most. Such a glacier now exists in Greenland. It covers fully 600,000 square miles—six-sevenths of the area of Greenland—or a larger space than Ohio, Indiana, Michigan, Wisconsin, Minnesota, Iowa, Missouri, Kansas and Illinois. This immense field of ice, several thousand feet in thickness over a large part of its extent, helps us to believe the story which our morainal boulder and its fellows tell for the Northern United States. A characteristic of continental glaciers which concerns us is, that it cannot carry moraines on its surface. Its moraines are ground and terminal, or interlobate, which is a sort of terminal."

The Lesson.

"How is it possible to believe that it was ever cold enough for a North American continental ice

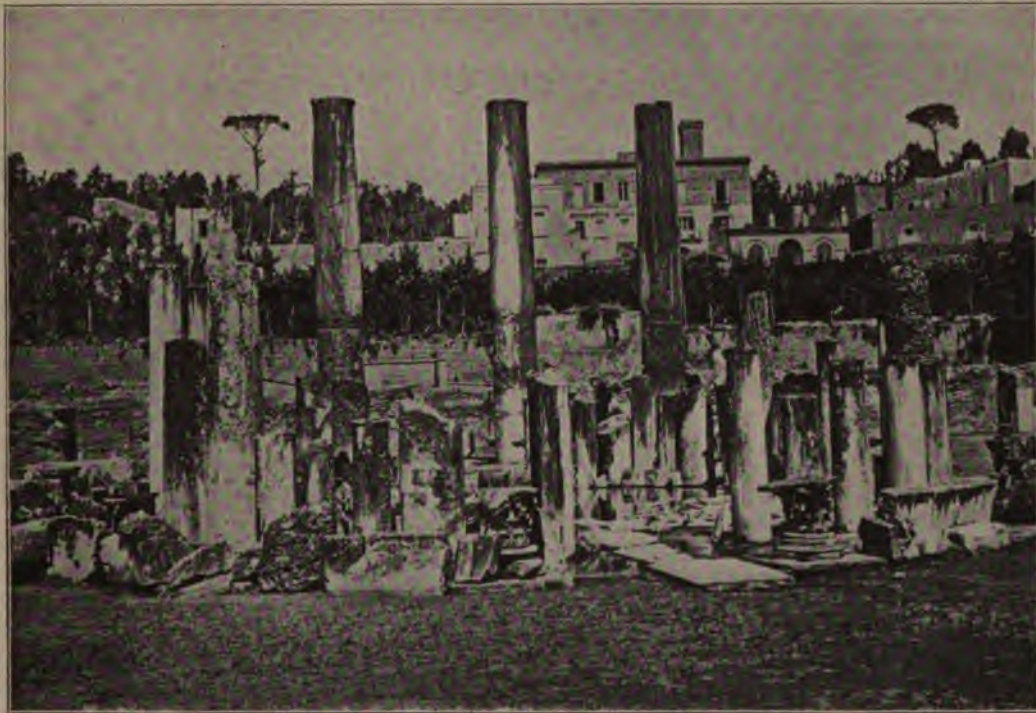
sheet to extend from the Dakotas to the Atlantic; to reach a southern limit in Kentucky, and to be—at least in places, more than a mile thick? What was the cause of the cold?

"It is well known that on account of the eccentricity in its orbit the earth is now nearer to the sun during the northern winter than summer; but this state of things changes, from age to age,—time was when the earth was farthest from the sun during the northern winter.

"When we were studying boulder journeys, facts were given which show that Western Europe and Eastern North America are the parts of the North-

to pass as a result of changes of level in the earth's surface, and this cause can affect the earth locally.

"Remembering with Lyell that the past is to be interpreted by the present, we will make a journey with him from Naples to Pozzuoli. Every one is interested in this journey, for one of the homes of Cicero is on the way, and also the tomb of Virgil. Near by is the river Styx and Lake Avernus, and the Roman temple at Pozzuoli has a human interest clinging to it that enlists every one. It was down here at Misenum that Ben Hur lived out his days. It was here in the emperor's summer amphitheater that Januarius



RUINS OF THE TEMPLE OF JUPITER SERAPIS.

ern hemisphere which were most affected by the cold. If the causes were astronomical it is difficult to see why the entire northern hemisphere was not affected alike; it is not, therefore, generally believed that the cause was wholly astronomical. This view is generally known as Croll's hypothesis, and is explained in his *Climate and Time*, and also at some length in Wright's *Man and the Glacial Period*.

"It seems now to be true that the glaciers of Western North America are somewhat rapidly disappearing, while in Greenland they are slowly increasing. Astronomical reasons cannot explain facts like these. Great changes in climate can come

was thrown to the lions. It was near here that, in 1538, Monte Nuovo (new mountain) suddenly rose out of the Mediterranean 456 feet; so that Poetry, Romance, Oratory, History, Christianity, Mythology and Science all call their devotees to this charmed spot.

"You will see in the picture of the old temple of Jupiter Serapis that three columns are yet standing. These are forty-two feet high; twelve feet at the bottom are smooth, the next nine feet full of the holes of a lithodorous mollusk, i. e., a mollusk that lives in a stone house. (*Modiola lithophaga*, a Mediterranean shellfish that bores holes in stones in which to live.)

"These columns show that in historic times the shore has been twenty-one feet lower than it is now. The twelve feet at bottom were buried in mud; in the nine feet of water above this, the shells lived and bored out homes in the columns. Five feet below the present pavement there is another under the waters of the sea, showing that the water began to rise while the Romans yet occupied the temple, and giving twenty-six feet, in all for the oscillations since the temple was built.

"Many other instances of changes in level are known; New Jersey is sinking about two feet in a century. From Stockholm to the North Cape Sweden is rising. The coast of Greenland is slowly sinking; new poles to which to anchor boats must be put down from time to time at long intervals. Lyell calls the old poles out at sea 'silent witnesses of the change.' At the Bay of Fundy the ground is sinking. Stumps of trees are covered thirty-five feet with water at high tide. These are other 'silent witnesses' when the tide is out.

There rolls the deep where grew the tree,
Oh earth, what changes thou hast seen!
There where the long street roars hath been
The stillness of the central sea."

"Perhaps the most remarkable instance of subsidence known is that of the bottom of the Pacific Ocean over an area 6,000 miles long and from 1,000 to 2,000 wide. The evidence of subsidence over this space is that its coral reefs, many of them, extend 250 feet, and more, below sea level. The reef-building corals can not live at more than about half this depth, so the surface must have sunk. The shape of the atolls, the depth of the lagoons and the distance and great depth of barrier reefs, all point to subsidence, and are only sufficiently explained by it. This area is larger than that part of North America which was covered by the glacial ice. This subsidence in the Pacific took place in recent geological time. Who knows but that, as it sank, Northeastern North America and Northwestern Europe rose?

"That Northeastern North America rose is shown by the present condition of its river channels, the depth of fiords along the coast, and migrations of animals between Asia, Europe and North America. The bed of the Saginay river channel is from 300 to 840 feet below sea level. No river that enters the sea can wear out a gorge much below sea level, there must, then, have been a time when the Saginay river-bed was several hundred feet higher than now. Soundings of the St. Lawrence show that its bed lies in places 1878 feet below sea level.

"Between Maine and Hudson Bay along our coast line are many fiords; these have been shown by soundings to be as much as 3,500 feet deep, and

many of them are 2,000 feet or more. In drawing your maps you must have noticed the great irregularity of the coast of Norway, Alaska, Maine, etc. Such coast lines only occur where glaciation has taken place and these deep fiords must have been worn out by water and ice when the coasts were far higher than now.

"Many, if not all, rivers emptying into Lake Erie show by their channels that they have been from 100 to 400 feet deeper in the rocks than they are now; their channels are filled to these depths with drift. It has been shown by several geologists that many of these rivers once flowed in the opposite direction from the present flow: the Maumee is one of these; it drained Lake Erie by way of the Wabash. (Gilbert.) The Illinois is another; it drained Lake Michigan. (Warren.) These lakes were higher then, doubtless, than now.

"It is generally believed, now, that the basins of the Great Lakes themselves are also channels of erosion: the bottom of Lake Superior is 406 feet below sea level, of Huron 121 feet, of Michigan 289 feet, of Ontario 492 feet, so they must have been much higher than they are now.

"Most of our Indiana rivers flow toward the South or Southwest. They once helped carry off the water from this continent of melting ice as well as the rain which fell over their valleys; this is why the amount of erosion along their valleys, and the extent of their flood plains so far transcend anything which their present volume of water, even at the highest known flood-times could have produced.

"Identity in the species of animals and plants in Northern North America and Europe also points to the conclusion that there was land communication between the two continents in their higher latitudes. This would be brought to pass by a much less elevation of the continents than the depth of the fiords on both sides of the Atlantic seems to indicate.

"Such, in its briefest outlines, is the story of our boulder. It received its present stratified appearance at the hands of the waves of a sea that covered most of the United States, and had its coast line somewhere in Canada. It rested in its Canadian home through the geologic ages while the stratified rocks that cover the United States were forming,—ages we name, Cambrian, Ordovician, Silurian, Devonian, Carboniferous, Jura-Triassic, Cretaceous, Eocene and Neocene. Then, when the activities which concern us as a continent were transferred in the main from sea to land, and were in full swing, it came here on a sled of ice, continent wide and mountain high; from then until now it has remained here a

'silent' witness of the beneficent changes in North America since that era so far back toward the beginning which we call the Archæan."

RICHMOND, IND.

NATURE STUDY IN ELEMENTARY SCHOOLS.

Part Two.

HOW SHALL WE INTRODUCE NATURE STUDY INTO THE ELEMENTARY SCHOOLS?

Shall it be mystified by a multiplicity of stuff; i. e., by trying to study about a great many things in every grade, every year? Some school men seem to be doing it in this way. Here is a course of study for the schools of a great city (outside of Indiana). Let us read what is put down for nature study in the third grade:

"September and October—Birds: Nest building; care of young; migration; winter houses; food; protection; adaptation of structure to flight; different kinds of birds and their habits; adaptation of body, foot, bill, etc., to mode of life. Draw a picture of a bird of each order. Seven orders of birds: Song birds, birds of prey, scratchers, runners, waders, swimmers and birds that do not fly.

Sea Forms: Sea fir, sea star, sea moss, sea weed, coral.

Fish: Minnow, goldfish, bass, whitefish, red-snapper, perch, catfish.

November and December—Insects: Characteristics and structure; changes or transformation; habits at different periods of existence; adaptation of structure to mode of life. Draw a picture of each insect studied by the class. Select five of the following for the class to study: Insects—Grasshopper, mud-wasp, paper-wasp, house-fly, horse-fly, spider, centipede, fish-worm, moth, butterfly, June-bug, potato-beetle, lady-beetle, roach, honey-bee, flea, cricket.

January—Minerals: Coal, iron, gold, silver, lead, tin, copper, mercury, salt.

February—Vegetables: Potato, beet, bean, pea.

March—Grains: Wheat, corn, oats, barley, rice.

April—Useful plants: Cotton and flax.

May and June—Fruits: On trees, bushes and vines."

This is an immense dose. The mere reading of it would be enough to terrify the poor teacher if he didn't see the loop-holes by which he was to get out of doing anything. The time is two periods a week of half an hour each. Of course this means that nothing is expected to be done.

SHALL WE INTRODUCE NATURE STUDY BY MEANS OF BOOKS?

The end of nature study is to establish an interest in nature. The child has the interest now; we wish to make it lifelong. We are to teach him how

to study air and water and plants and animals and rocks; not how to study these things in books, but how to study them out of doors, in the field, in the woods. Whenever we fix it as a book study he will leave it behind him, in the school, as he leaves nearly everything else, even his physical culture.

Let us turn again to the same course of study. After the enumeration of sixty comprehensive topics for the third grade, there follows a five-page list of references. Take for example the topics, "Cotton" and "Flax." Here are the references, pages 95 and 96, of a certain book:

"What plant supplies us with much of our clothing? Name articles of clothing made of cotton. Did you ever see a field of cotton? In the summer the young plant is covered with pretty, pale-yellow flowers. In the autumn you see the pod or boll which contains the cotton. As the pod ripens, it bursts open. The cotton-field is now a pretty sight—the bright green leaves, yellow blossoms, and snowy cotton all mingled together. Form a picture in your mind of a field of cotton in bloom. The cotton is now picked. The first thing is to separate it from its seed. This is done by a machine called a cotton-gin. Now it is ready to be pressed into great bales and sent to market. It will, at last, go to the cotton mills and be spun into thread, then woven into muslin, calico, etc. Are the seeds of any use? They contain a great deal of oil, which is pressed out by machinery. What is the name of this oil? What use is made of it? There is another plant from which clothing is made. Do you know what plant linen is made from? Linen comes from the flax plant. Flax is a small plant which grows two or three feet high, bearing on the top a bunch of pretty blue flowers. A field of flax in bloom is a very pretty sight.

The flax does not grow in a pod like cotton. The stalk of the plant is covered with a bark, or skin, containing fibers. These fibers are spun into thread, which is woven into a cloth called linen. The seeds are used for making an oil called linseed oil. For what is linseed oil used?"

The way to study cotton is to plant the seeds and then see it grow and flower and fruit. The way to study flax is to grow it, rot it, break it, and comb it.

The references on birds' nest-building are 55. Here are the first two:

"The lovely warbling vireo (*Vireo gilvus*) fastens its neat pensile nest low down on the ends of the twigs, where it sits quietly while I stand immediately beneath it, and it looks down upon me with its large, lustrous eyes in a sweet, confiding way, or warbles its low, tender, whispering strain in the branches above my head."

"The elegant scarlet tanager (*Pyrrangia rubra*), with its more soberly attired mate, constructed their frail tenement in the most retired part of the orchard, on the forked branch of a plum tree. The eggs were four in number, of a dull greenish color, spotted with brown."

Of more educational value than the whole fifty-five is a single paragraph from a composition on the blackbird, written by a boy in the sixth grade and based upon his own field notes:

"The pair began to build their nest on April 16th. It took them about a week to finish it completely. Then the eggs were laid, five in number and blue with black spots all over them. The old bird began to sit April 27th and the young hatched May 14th. The young left the nest on May 25th. The material of the nest was hair, strings, straws, and twigs. The nest was placed between two limbs that ran out from the tree."

In an article in *Science* on "Nature Study and Intellectual Culture," Dr. John M. Coulter says:

"It may be worth while to call attention to the fact that 'nature study' holds no relation to the study of the subject-matter as presented in text-books, and that such a presentation of it has no value in a scheme of education that does not belong to any other subject presented in the same way, and for the purpose of training might as well be eliminated. The young mind does not reach out after the text-book, but after the natural objects themselves. This distinction should be rigidly regarded, and text-book work should never be admitted into the category of 'nature study.' I grant to the old aristocracy all the strictures upon the results of science study, it may care to impose, if this study is to be one of the text-books. One of the prominent things claimed for 'nature study' is that it breaks the shackles of slavery to the book and introduces that intellectual freedom in which one sees and thinks for himself."

What can the child learn about asters and golden-rods that he doesn't already know? He may learn that they are fall flowers. Well, that is very good, but if he learns it in a minute by reading it in a book, it is not nature study.

There is a balance in education. In one pan is books; in the other, observation. The book pan has belonged to the school; the observation pan has belonged to life. The purpose of nature study is to bring both pans into the school. The meaning of "nature study" is study without books.

IS IT POSSIBLE TO CORRELATE NATURE STUDY WITH OTHER WORK?

To me it seems nonsense to attempt any such thing. Let us study nature for its own sake and not try to display our ingenuity by dove-tailing it

with literature. Let us step out of our scholastic prison into the realms of nature herself.

A clothing of nature study with literary references and stories of nature is a confession that we don't think there is anything in nature worth studying; and we offer this literary garb as an apology for requiring such nonsense in the school. Or, to be plain, it is a confession that we don't know anything about the subject that is worth knowing.

Think of Agassiz, with a class studying Cephalopods, reading Victor Hugo's "Toilers of the Sea," in order to correlate their work with literature.

Select for your school the best in literature and the best in nature study. The best in nature study means what is best suited to the circumstances of time and place. The Fringed Gentian doesn't grow in my locality. What am I going to do about Bryant's beautiful poem? I observed the migration of birds for years without reading the "Cranes of Ibycus." While engaged in "nature study" we are little naturalists, moving toward the great naturalists and getting some of the truths that they got in the earlier part of their career, and getting these truths, as they did, for the sake of the truths themselves. All other advantages are incidental. The incidental may weigh most with the teacher, but it is the new truth that delights the child.

Let us return to the general question: How shall we introduce nature study into the schools? The answer is, go straight at it, and learn a few things in each grade, each year. The best way to go straight at it is to put the whole school at the same thing. For example, let the nature study for one year be rock study. All the teachers and all the children are this year studying rocks. None know much about rocks at the beginning but with such concentration of energy some real knowledge will be developed. The higher grades will, of course, get far ahead of the lower ones, yet all will be studying rocks. A year's work will develop a graded course in rock study, better than any superintendent can formulate while sitting in his study. After this one year given to the introduction of rock study, the time for this study may be limited to, say, one month a year. Think of the help that the teachers can be to one another, when all are engaged in the same line of work. Think of the advantage of companionship in field work, when all are especially looking for rocks.

Our nature study must not be too deep for children, and it must not be so shallow that there is no thought in it. We must know enough about the subject to decide what truths lie nearest to the child and what truths it is possible for him to dis-

cover. What is there of real interest to learn about a thing? is the first question. Then, is it possible for the child to get this knowledge, with his fingers and eyes?

W. P. SHANNON.

GREENSBURG, IND.

SCIENCE IN THE TEACHING OF ENGLISH. XXII.

COMPOSITION.

DESCRIPTION.

The work indicated in the outline of "Westminster Abbey," in the last number of THE EDUCATOR, would lead the student to see the nature of description and the principles underlying the process. The student sees that in writing description, he is dealing with a particular, complex idea, that he is to embody a worthy and definite purpose in his discourse, and that he is to select the means most effective in setting forth this purpose. He is to comply with the laws of the process; viz., purpose, unity, selection, completeness, and method.

The next work that the pupil would be asked to do would be to write a paper, setting forth the points indicated in the outline. This paper will embody four points: (1) a statement of the idea treated in the selection; (2) a statement of the purpose embodied in the selection; (3) a statement showing how the author has embodied the purpose in the selection, or the means he has employed in accomplishing the purpose; (4) a statement showing that the author has complied with or violated the laws of discourse.

It might be thought that, since the student already sees the nature and principles of description from the work already done on the selection, he need not write the paper indicated above. This would perhaps be true if the only purpose in the work were to teach him the nature of description, but we must bear in mind that the main purpose of the composition work is to give the pupil the ability to think out a subject for himself, to organize the thought of it, and to express the thought in good, pure, terse, appropriate language. In the outline the student has organized the thought and he is now to have an opportunity of expressing it in good English. This paper which he will write will not be description. It does not matter what form of discourse he is writing, so that he has the opportunity to write under proper conditions. The conditions under which he is to write this paper are ideal, because he really has something to say, he has thought out and organized a thought here, he has a purpose to embody, he sees clearly the means

by which he is to accomplish his purpose. He has, in short, something to say and a motive for saying it. Besides, the statement of the thought in the form of the paper will tend to fix more clearly in the mind of the student the facts concerning description which he learned in making the outline on "Westminster Abbey," and it will afford the teacher an excellent opportunity to see if the student really understands the nature of description.

After these papers are finished, they should be examined critically by the teacher and the pupils. Some of them should be read in class, the mistakes in English should be carefully pointed out and corrected with all the conscientiousness indicated in earlier articles on this subject. The attention of the class should be directed to the organization of the paper. It should be considered in some such critical way as that in which the class has considered Irving's selection. The questions, then, which the teacher should raise concerning the paper and which the class should be led to discuss carefully, would fall under two heads: (1) as to the organization of the thought; (2) as to the language in which the thought is expressed.

Questions which would illustrate the nature of the work under the first point would be as follows: Has the writer of the paper clearly stated the idea treated and the purpose embodied in the selection? Has he shown clearly that the author of the selection has fully set forth the purpose? Has he shown well that the author has complied with the laws of discourse? Is the thought of the paper well organized, and has he given proper emphasis to the points? Has the writer of the paper complied with the laws of discourse? Has he kept in mind, all the time, that the idea which he is treating is the selection written by Irving, and not the idea with which Irving was dealing? etc., etc.

Questions which would illustrate the nature of the work under the second point are as follows: Are the sentences grammatically correct? Is the thought expressed in the most appropriate language? Is the choice of words good? Is there sufficient variety of expression? Are there too many short sentences, or too many long sentences? Has the author used more words than are necessary? Has he expressed his thought clearly? etc., etc.

After the papers have been thoroughly discussed as here indicated, and the errors of the pupils have been pointed out by pupils and teacher, the papers may then be rewritten if, in the judgment of the teacher, they are so defective as to require it, or to make it profitable for the students to work longer with them.

The following paper will illustrate the nature of the work further. It was prepared by a student in one of the composition classes in this school. It would be criticised according to the scheme just outlined. The paper illustrates the second kind of work the pupils would do on a selection such as "Westminster Abbey," the first work being that indicated in the outline in the last article. It would be, perhaps, clearer to give the paper on "Westminster Abbey," but it will give more variety to the work to present a paper on another selection, so Irving's "Christmas Eve" is chosen. It will be understood, however, that the pupils have organized the thought of the selection and have made an outline of it similar to that presented on "Westminster Abbey," before preparing this paper.

* "CHRISTMAS EVE."

The idea treated in this selection is a Christmas Eve at Bracebridge Hall, a particular, complex idea.

The purpose embodied in the selection is to awaken a feeling of pleasure in contemplating the happy home life of the family at Bracebridge Hall, as exhibited in their Christmas merry-making. The selection causes us to sympathize with old English manners and customs in celebrating Christmas Eve, and perhaps awakens a feeling of regret that this delightful practice of observing the occasion is passing away.

The purpose is accomplished by the use of those attributes which are suggestive of the ideal home festivities of Christmas. On a cold, moonlight night, typical of the season, the wandering member of the family is returning to share the holiday pleasures of home. The post-boy's anticipation of good cheer arouse the reader's expectation of an introduction into a hospitable home; and this expectation is increased by the presentation of some of the traits of character of the old gentleman, who is the presiding genius of the place, and who is described as of genial, though eccentric benevolence, dispensing benefits to all around him, and cherishing the customs of an earlier and more social age. His honorable hereditary position, his fine manor and its surroundings, are fit settings for one whose aim is to be a true English gentleman of the old school.

The spirit of kindness and affection, pervading the establishment, expresses itself in the glad welcome of the little, old portress to her young master, and in the boisterous delight of the animals on recognizing him, as well as in the enjoyments of the servants' hall. Bracebridge's reminiscences of his boyhood holidays, his father's peculiar care

of their 'merrie disport,' and the delicious home feeling engendered, indicate more particularly the happy family life.

The reception of the travelers among the assembled company in the hall displays warm, domestic feeling and harmonious social enjoyment. An agreeable background is given by the furnishings of the hall, suggesting a daily life of comfort and enjoyment; while the presence of the Yule clog is a reminder of the season. The personal appearance of the squire, the central figure of the scene, is in harmony with his environment. The reader sees, with Irving, the delightful picture of him in his hereditary position, 'looking around him like the sun of a system, beaming warmth and gladness to every heart,' with the dog at his feet, and the tattered toys scattered about him as they were dropped by the sleepy children; while those present in the room, young and old, gay and quiet, prankish and dignified, are all happy under the influence of his kindly hospitality.

The description of the supper adds the joys of the taste to those before enumerated. The spirit of sociability and amusement is exemplified in Master Simon, who possesses those qualities which harmonize the various dispositions of a promiscuous company. He is the wit of the assembly, the chronicler of events, the singer of songs, and shows himself to have that necessary element of a wit,—ability to take jokes as well as to make them.

The dance brings out, in a particular manner, the general sociability by the unequal assortment of couples, and this idea is somewhat heightened by the contrasting touch of sentimentality which is so delicately noticed. No one fails to find enjoyment; and when the good-night handshaking comes in the light of the Yule clog, the reader beholds the happy ending of a scene of unalloyed pleasure, increased by the sweet influences of the Christmas time. The mysterious effect of these influences is shown to follow the guest to his apartment, and is intensified by the music of the waits, floating around the house and sending him gently to sleep with soul lifted above earthly things into the domain of spirit.

As shown in the above review, the author of this selection obeys the laws of purpose and unity by having a definite and worthy aim, and by making each of the attributes and parts serve to further this purpose. This is shown, especially, in the grouping of the various characters, in the continual reminders of Christmas, in the merry, cheerful spirit everywhere exhibited, and, most of all, in the characteristics of the old squire.

The author complies with the requirements of the law of selection by choosing just such attributes as are needed to bring out the idea of the joys of

This paper was written by Anna Carr.

Christmas in a happy English home; for example, the burning of the Yule clog, the gathering of relatives at the ancestral home of the Bracebridges, the quaint old English customs so faithfully adhered to by the squire. No description is given of the size of the squire's family, the location of his residence, or the value of his possessions; no facts of the life at Bracebridge Hall are stated except such as relate to the expression of affection and kindly gayety. The old portress meets her master's son with joy; the dogs bark with delight; the servants are so absorbed in their games that at first, they do not hear the ring of the new arrivals; and the genial squire is shown surrounded by his happy relatives. All the conditions—external and internal—are favorable to an ideal Christmas Eve celebration.

In selecting the attributes just given, the author also complies with the law of completeness, which requires that just sufficient attributes be employed to make clear the purpose. He does not use attributes of midsummer pleasures, but only the special joys of Christmas; while, at the same time, he selects those which show the enjoyments of all, high and low, servant and master, large and small, old and young.

He obeys the law of method by presenting his facts in such a manner that the first naturally leads to the second, and so on, until the purpose is made clear. Thus he presents the cold night, the arrival of the travelers, the servants' amusements, the squire and his family, the merry dance, and the other amusements, closing with the glad good-night parting and the gentle sinking into slumber to the sound of sweet music.

The selection leaves us feeling that this was, indeed, an ideal celebration; we like it; we sympathize with the squire in insisting on this way of keeping Christmas Eve; and, as we can not help comparing it with our mode of observing the occasion, we regret that these old manners and customs are becoming obsolete.

J. B. WISELY.

STATE NORMAL SCHOOL, TERRE HAUTE, IND.

TRAINING IN ENGLISH.

A prominent educator who was asked to contribute something to *THE EDUCATOR* bearing upon the training he received in English, has sent us the following very suggestive statement:

Of training in English, in the modern sense of the phrase, I have had very little. However, I was blessed with a New England mother, who corrected my speech at home, and from my childhood I have enjoyed the society of educated people. I think, too, that during my school days the authorities exercised more care in the selection of teach-

ers than now, or else distance has increased my reverence for that class. At any rate, my teachers were all Eastern people, and the men were graduates of universities. One of my schoolmates expressed my feelings when she said, "I used to think Mr. Snow knew as much as God did." This was Benjamin P. Snow of Maine, a graduate of Bowdoin. Another of my early teachers was "Sophie May," or Miss Rebecca Clarke, also of Maine.

We began the study of grammar very early in olden times, and although it did not mean much to me then, I remember being fond of it when most of my friends disliked it. In the Seminary, I had a smattering of rhetoric, and throughout the high school and seminary courses I wrote "compositions;" but for some reason, probably on account of the large number of pupils, those early teachers did not give much attention to composition. They sometimes assigned subjects and occasionally devoted a Friday afternoon to reading and criticising our essays. A word of correction was sometimes penciled on the margin, or a favorable comment at the end of an essay, but for the most part we were left to blunder along by ourselves. Such a thing as a pupil's being required to rewrite an essay was unknown.

I think I have gained more knowledge of English from reading than from any other source. I have always been an omnivorous reader, and while, for many years, I was unconscious of the training, I know now that whatever ease I may have attained in writing is attributable to that cause. Hence, I sometimes feel like echoing Charles Lamb's well-known prescription for a girl's education: "Turn her loose in a library and let her browse to her heart's content." However, that would be a poor rule in the case of a girl who has no taste for reading.

Another source of benefit to me has been my teaching of English during the last fifteen years. This, however, I regret to say, has not been a help to me in writing. On the contrary, I feel that I have lost in facility as I have gained in power as a teacher of rhetoric; so much so, that I sometimes say when urged to write, "I have taught rhetoric too long now ever to be a writer." This may seem like an over-statement, but I think other teachers must have had a similar experience.

At one time I thought I had a talent for writing, and I was encouraged in this belief by the fact that I had a few articles accepted by the *Atlantic Monthly* and other magazines, but "Chill Penury," combined with the study and teaching of rhetoric, "repressed my noble rage," and now I know my own limitations, and I do not try to write for publication.

CHILD-STUDY.

The development of the child, morally, mentally and physically, in our public schools of to-day is of the greatest importance to the future prosperity of our nation; for upon our common school system depends the welfare of the country in the coming years, as all classes rich and poor alike bestow their patronage.

This is especially true of the primary grades, where the writer has taught for several years, and has tried to make her intense interest, sympathy and enthusiasm compensate for her lack of so-called experience, feeling that long years of work without these, means not so much experience as fewer years of earnest searching for the truth.

The development of a child, particularly one that seems defective, is most interesting, and it is this love and sympathy with a desire to uplift that makes teaching a delight instead of a drudgery.

There is no such thing as a dull pupil (would that the use of the word in this connection might be abolished); there are some who, because of peculiarities of temperament, through environment or heredity, are more difficult to reach than others. When a child does not develop we must know that we have not reached him. All mind is not to be reached in the same way, and we must not censure the minds that require a little more patience or a little different method. Every child brings into the school-room all he needs or can possibly use; we can give him nothing. We can only guide, direct and train what he himself has, just as we would a vine or flower. If we supply the proper conditions and put aside the obstacles, it is bound to grow. Whether it grows in the right or wrong direction depends on how we guide it. Is there a fault in the school-room? Let the teacher examine herself. Are the children not as they should be? It is her fault. Not in nine cases out of ten is it the teacher's fault, but always. If a child does not progress, be alarmed; look to yourself and there find the reason. Have no placarded rules, but speak of the right, talk of the good, and as the spirit of imitation is prominent in the average child, let him neither see nor hear anything but good.

A young cadet teacher, under training, was assisting Miss M——. During her absence, the cadet wrote the word "bad" on the board, placing under it the names of the children she was unable to control. When Miss M—— reentered, she noticed this and asked the cadet to erase it immediately, telling her that never had the word "bad" been seen or heard in her room before. The cadet, surprised, said: "Some teachers tell

me to do this." Ah! that is the secret of order. Never mention the word "bad;" if a child in the room does wrong, it is because he has forgotten—because he has not yet learned how to act, *not* because he is bad or wilfully disobedient. Always expect good; trust the children and in many instances they will prove worthy of it.

Try this at some time:—walk into a disorderly school, where children lean over their seats, giggle and whisper, and if you find some child in order, say in a pleasant tone: "Sarah, I like to look at you, you are in such good position." Watch the change; immediately every child is in order studying his lesson.

Be interested, and the children will show interest; love your work and the children will have a fondness for their studies. Be on a level with them; accept the doctrine of fellowship. In our school-rooms let there be no one standing above, holding the rod, that all-powerful badge of authority, but let us know where there is apparently no one who has all authority. There lies the true strength, for only a strong ruler can lay aside the badge and say "my brother." Hold the power and protect it, but do not assert it.

Teach the children to depend on themselves, and in the Primary Department we should have more self-government; no punishment by staying after school when tired little limbs need recreation, and tired little brains need rest, but allow them to judge between right and wrong, and should they choose wrong, guide them to the right.

We are not working for results, we want only effort and improvement. He that works should win approbation, it matters not what the results are. Everything is in the effort; results are, in themselves, of small value—none, indeed, except when they show the patient striving that is really the victory.

A boy nine years of age, listless, ugly-looking, never a smile on his face, stayed in the Second Grade because he could not pass in the examination in numbers. He was very disagreeable, impudent and morose. Finally he was pushed up into the Third Grade. His father was worried for fear he would never make a business man, and his mother came to the new teacher and told her this: "My boy has something the matter with his head; he can't learn arithmetic; he had fits and we think he hasn't good sense, so be kind to him." The teacher answered: "I shall try to teach him. He can read, write nicely, leads his class in spelling, so there can be nothing wrong with his brain." This boy, when shown two fingers and asked how many, would answer "two;" but if two more were added he might say "fifteen" or

"three" or "twenty." If a direct question in arithmetic were put to him he would turn red in the face and could scarcely articulate. The teacher began to praise his writing and spelling, thus reassuring; and when the arithmetic recitation was in progress, did not notice him at all. She gave out Second Grade combinations to the class and observed that if she praised the quick and correct answers of the brightest pupils around him it had no rousing effect on him. So she began to commend the work of a boy named Frank, who was very slow and more on an equality with John. As soon as she did this the teacher perceived a change in John immediately. He looked surprised that Frank should do anything worthy of praise, and he seemed to begin to try to keep pace with him. He listened intently and often raised his hand.

When called upon, if he answered correctly the teacher was lavish in her praise; if not she said nothing. This worked like a charm. He began to try and in a few months was doing fairly well. He became an active worker in the arithmetic class. He has since left our schools and is now in an orphan asylum at Knightstown, Indiana; and he is said to be very bright in the study of arithmetic.

How shall we reach these little images, whose faces bear no expression of interest? Win their love and respect, and give them our sympathy.

Knowledge, plated with the gold of kindness, love and sympathy is the only key that opens the entrance to the child's mind and discloses the treasures hidden therein.

MARTHA JEWETT.

EVANSVILLE, IND.

THE DULL PUPIL.

He is, upon the whole, rather interesting than otherwise; his dullness is of so many sorts and degrees, and arises from such varied causes, that his teacher is always meeting with surprises. He exhibits quite as much individuality in his dullness as does his more fortunate brother in his smartness. Sometimes slowness is his strong point and sometimes a sort of moral weakness for which we have no better name than downright meanness.

At worst or best he taxes our ingenuity and exercises our patience. Making a study of our pupil, ten chances to one we will feel a genuine pity for him, and a spark of tenderness which is something vastly more helpful than shedding tears over his condition.

I have in mind a child who is weak in mental power and also a hopeless cripple. Some one said

of him, "The first day I saw him I could hardly keep back the tears, and when he tried to leave his seat I involuntarily put out my hand to help him. His teacher, on the contrary, with wisdom born of experience, and real tenderness, said to him in a matter-of-fact way, 'I am glad to see you are learning to help yourself. That is right; do all you can without help.'" The lesson was not lost upon me.

A physician who has had much experience with feeble-minded children says:

"The great mistake of persons dealing with this class of children is that they do not control them. They accept the fact that they are lacking in mental gifts and expect nothing of them, humor all their whims, and as a consequence they often grow up a curse to themselves and their friends. These children can be trained, and no graver mistake can be made than to give up to them."

There may be a child in our school-room for whom life holds no possibilities, so far as human vision can reach, but that is no affair of ours. The something that we can teach and he can learn, it is our business to find out and to teach; the obedience that can be exacted, it is our place to exact. No failing should excuse him from doing what he can do, and doing it well. If his arithmetical bump is not developed beyond stick-laying he can at least lay his sticks straight, and gain so much in self respect.

Perhaps in dealing with a thoroughly stupid child the richest reward falls back upon the teacher, for nothing keeps one in a more wholesome and happy frame of mind than doing for the unfortunate. The moment one is conscious of having helped another, ever so little, there is no room for a feeling of repulsion; one ceases to puzzle over the "Why," and is concerned only with "What can be done and how shall it be done?"

Why John should have a bright mind and William next to none, I am sure I cannot say; but if there is one thing I can teach William, and that one thing is no more than keeping his hands clean, we are both better off than if I tried to teach him nothing. At best, William will go through life handicapped. The kindest thing I can do for him is to teach him self-respect, and whatever measure of personal responsibility he is capable of. Our one-talent child needs sympathy and consideration more than our ten-talent prodigy. His individuality must be respected; he must feel himself of some little account in the world.

To be considerate and thoughtful toward those who have received less than ourselves, detracts nothing from our own dignity, and often gives heart and hope to those who look to us for help. To look for the best in our dullest pupil is to exact

his best from him. It is not an easy task to hold him to his best self—there is so little swing between the actual and the possible, but it pays to try. He will never, by any chance, hold a high position and reflect worldly honor upon his early teachers, but, nevertheless, no honest effort in his behalf is quite in vain.

BERTA KNOWLTON BROWN.

OXFORD, O.

UNREGARDED SEEDS.

The most unfortunate feature of teaching is the fact that so often the teacher has no real evidences or assurances of having accomplished any good. As a warning to the careless teacher, and for the encouragement of the discouraged, it is well to note the occasional incidents which prove that all the associations of the teacher with pupil more or less influence the latter.

Some ten years ago, upon returning to my office in a city school, I found awaiting me a good healthy eighth-grade boy who had been sent to me by his despairing teacher "because" and perhaps for the hundredth time, "he did not know his 'gography' lesson." I had been worried, and not knowing what else to do, I gave him a tablet and told him to sit down at the table and write for me twenty times, a rhyme which happened to enter my mind.

In due time he came with his paper, having copied twenty times:

"Only the boy who does all he can
Will in the end become an independent man;
While he who does only what he must
Will be but a servant to the man of trust."

to which he added at the close on his own account:

"And in the end is sure to bust."

The last line put me in a good humor, and I sent him off with a bit of friendly advice. In the course of time the boy managed his way through the high school and went off to medical college. I had forgotten all about the incident until a few days ago, when I received a letter from him enclosing a newspaper account of a delicate and difficult surgical operation which he had performed. The doctor closed his letter by quoting the rhyme, and saying that it is entitled to some of the credit for his success, and asking from what source it was taken.

The words signify nothing, but the incident shows what should ever be in the teacher's mind, that whether he will or not he is influencing the lives of his pupils.

KARL KLEIN.

THE TENNESSEE CENTENNIAL EXPOSITION.

A hundred and one years ago, Tennessee was admitted to the Union. The student of history will find that the admission was rather peculiar. Instead of waiting, scheming, and respectfully petitioning, as is necessary nowadays, Tennessee declared herself a state, adopted a constitution, elected senators and two representatives, and sent them to Washington to demand admittance. Such a bold proceeding raised some objection, but she was at length taken in, with the admonition practically to the effect that the next time she wanted to be admitted she must come in a more regular way. After a century of hardship, bravery, noble deeds, and stirring events, the Volunteer State is now celebrating the centennial of her statehood by an exposition in every way worthy of the event.

When it is asserted that the Tennessee Centennial, among all the expositions held in America stands second only to the Chicago Fair, and that in completeness and beauty of artistic finish it is not inferior to that, the statement is usually counted extravagant by strangers. But such is the fact, and none more enthusiastically praise the Centennial than visitors from other states than Tennessee.

To teachers, the most interesting exhibits should be the educational. To the management of the Centennial belongs the credit of building the only special educational building ever erected at an exposition. Even this was found not to be enough, and the public schools have been forced to take quarters in the Commerce and the Children's buildings. Here the visiting teacher from the North and East will find a collection of school work that will be a surprise to him unless he has followed closely the rapid progress made by Southern schools of late. The higher schools and colleges have filled the Educational building with work of a high order of excellence. The rural schools will also make a most creditable showing. The school exhibit as a whole is just such as might be made by the best schools anywhere in the country, and is evidence that there is no sectionalism in education.

The usual Machinery, Transportation, Minerals and other buildings are here; but every one is a gem of classical architecture, finished in pure white staff, and illuminated at night with rows of thousands of electric lights. The exhibits in these buildings show the material prosperity of Tennessee and of the South, and are an instructive object lesson. But there are other buildings not hitherto found in any exposition. First and grandest of all is the glorious Parthenon, the highest achievement of all architectural genius. The reproduction is exact, color, statuary and all. This is the

Fine Arts building, and a most excellent collection of masterpieces fills it. Spanning a narrow arm of Lake Wautanga, the Rialto of Venice connects the ancient and the modern, the Parthenon and the buildings of modern states and cities. The Shelby County building, an imitation of one of the great Pyramids, is a unique feature. But to thoughtful people, the History building must prove one of the most interesting of all. Here are collected relics of the beginnings of statehood; the fine collection of the Tennessee Historical Society, the Andrew Jackson relics, the mound builders' implements, the Confederate Veteran's mute pathetic reminders of the great struggle, and hundreds of other priceless collections, enough to occupy many a day of careful study.

These are only some of the attractions the exposition offers. The general effect is the greatest attraction of all. The grounds are beautiful, being laid off into one great garden of half-tropical flowers and plants, cooled by many fountains. At night when the lights are turned on, no more beautiful sight ever delighted the eye.

Nashville itself is worth a visit. Many well-known historic events have happened here, and more points of interest are found here than anywhere else in the South. It is situated in a beautiful rolling bluegrass country. The summer climate is not oppressive as many erroneously think, but is with few exceptions mild and delightful. The people are enthusiastic over their centennial, and will give a warm welcome and hospitable entertainment to all teachers and others who make a trip to Nashville part of their vacation program.

R. L. McDONNOLD.

SCIENCE COURSE IN INDIANA HIGH SCHOOLS.

An Association of teachers of science in Indiana was organized at Lafayette in Feb., 1896. There were fifty charter members, representing twenty-five counties and the larger high schools of the state. At the first meeting several subjects were discussed, but the one receiving most attention was "The Science Work in the High Schools of Indiana." After a free and vigorous discussion of the matter, a committee was appointed to collect information regarding science work in the high schools, and to report on the subject at the next meeting of the Association. At the second meeting of the Association, held at Lafayette Feb. 26 and 27, 1897, this committee presented an interesting report, which, for the most part, related to a course of science study in the high schools. After a somewhat extended discussion of the report, a paper on "The Logical Order of Science Subjects

in the High School" was read. This paper gave rise to considerable discussion in which many widely divergent ideas were expressed. Then, a paper on "How Shall Science be Taught in the High School" considered the same questions from a little different point of view. And a paper on "Time to be Devoted to Science and its Distribution" attacked the same problem along slightly different lines. Then followed a paper on "Biology in the High School," and another on "Desirable Modifications in Science Work and Courses," and the address of the retiring president, each more or less directly a discussion of the same subject.

The discussions, while vigorous and aggressive, were remarkably free from the "win-at-any-price" idea, and resulted in the development of many new ideas, and in many changes of opinion.

It was claimed that science should be a required study, comprising about one fourth of the high school course. There was a tendency to agree with President Gilman, that the boy in his teens may exhibit more talent in one direction than in another, but is not competent to determine what course he ought to follow; that without constant help from a prescribed curriculum or from wise counselors he will miss the proper order of his studies, and waste much of his time, money and energy. Many thought that a uniform course in science throughout the high schools of the state would be a desirable thing. Such a course might not be as good as now exists in some schools, but might be much better than now exists in the great majority of the schools in the state. It would be an average or compromise course, resulting from a careful consideration of the condition of the schools, of the nature of the subjects, and the opinions of experienced educators of the state. The logical order of science studies was given as physics, chemistry, botany, zoology, physiology, physical geography, and perhaps geology and astronomy. This order did not awaken much discussion, but the question of the order in which these subjects should be taught in the schools did stir up a vigorous interchange of opinion. It is understood that third and fourth year pupils can do better work in any of these subjects than first and second year pupils could do, and, that a good teacher could do valuable work in these subjects taken in any order; but considering the subjects, the pupils and the teachers and the environment, what order of science subjects will result in the best training, the best equipment of the pupil for his life work?

In regard to botany and zoology, it was thought that it would be better to spend the time allotted

to these subjects in doing one of them well than in attempting to skim over both. It was suggested that considering the collection and preservation of material, the shortness of recitation periods, the aversion to handling the different forms of animal life, etc., botany was more suitable for the major subject.

The question at last was whether physical or biological subjects should precede in the high school course. A vote on this question resulted in twenty-four for the order, physical and biological, to twelve for biological and physical. Of written statements in some detail from thirty teachers, eighteen were in favor of the order, physical and biological, while twelve were in favor of biological and physical. These tests indicated considerable change of opinion, and the development of ideas differing widely from those expressed in the report of the committee presented at the opening of the session.

This change of opinion was accepted as evidence that the questions had been discussed on their merits as free as possible from personal bias.

A committee was appointed by the Association to investigate the questions discussed and report a course of science study for the high schools of the state.

The questions before the committee are: What subjects should constitute a science course; how much time should be given to each? In what order should they be considered? How much laboratory work should be required? etc.

The committee would be glad to hear from every science teacher and interested school official in the state in regard to these and kindred questions. Write out a detailed statement of your ideas on these subjects, and send it to some member of the committee, and it will receive careful attention.

The committee are:

- Prof. D. W. DENNIS,
Richmond, Ind.
- Prof. DUMONT LATZ,
South Bend, Ind.
- Prof. M. B. THOMAS,
Crawfordsville, Ind.
- Prof. J. T. SCOVELL,
Terre Haute, Ind.
- Prof. G. A. ABBOTT,
Evansville, Ind.

The *Ladies Home Journal* for June is an interesting number. The leading article, "What Victoria has Seen," is a remarkable review of what seems almost the growth of the century. "When John Wesley Preached in Georgia," and Mr. Bok's contributions are other articles of interest and merit.

THE PRIMARY CLASS.

They stood in a row on the platform,
That dear little primary class,
They spoke of the birds in the tree tops,
The meadows and sweet scented grass.

They spoke of the flowers that were waking,
Deep in the cool earth below,
Where old Mother Nature had kept them
Safe, under her blanket of snow.

Not a word of sorrow or sadness,
In all that they had to say.
So proud in their hour of triumph,
As glad as if always May.

But we, who had gathered to hear them,
Felt the swift tears dim the eyes,
As we heard the childish voices
Saw the eager, sparkling eyes.

O dear little class on the platform;
Could we keep you ever and aye,
As sweet and pure, as fair to see
As you were on that fair May day.

In their best we had dressed our darlings
And decked the room with flowers
A fair and fitting tribute
To these little ones of ours.

Will it help them to be braver,
When childhood has passed away,
To be better men and women,
For the memory of one day?

O may they remember the picture,
Each dear little lad and lass,
That fair bright day in the month of May,
When they stood in the primary class.

LOUISE AKERS COCHRAN.

EAGLE, IND.

It is told of an old Baptist parson famous in Virginia that he once visited a plantation where the colored servant who met him at the gate asked which barn he would have his horse put in. "Have you two barns?" asked the doctor. "Yes, sah," replied the servant; "dar's de ole barn, and Mas'r Wales has jest built a new one." "Where do you usually put the horses of clergymen who come to see your master?" "Well, sah, if dey's Methodist or Baptist, we gen'ally puts 'em in de ole barn, but if dey's 'Piscopals we puts em in the new one." "Well, Bob, you can put my horse in the new barn; I'm a Baptist, but my horse is an Episcopalian."—*New York Tribune*.

Hold fast to that which is good, while seeking for the new.

OUR LEGAL DEPARTMENT.

R. D. FISHER.

COMMON SCHOOLS.

PUPILS.

(a) *Admission—In General:* Public schools and instruction in the prescribed branches must be provided for all of legal school age. (See constitution of the various states.) In New York, however, the right to be educated in the common schools of the state is one derived entirely from legislation, and as such is subject to such limitations as the legislature may, from time to time, see fit to make. It is not a constitutional right in this state. (*Dallas vs. Fosdick*, 40 How. Pr. N. Y. 240.)

A resident cannot claim for his children or ward the absolute right to select such a school for them as he pleases in disregard of the regulations of the school authorities or prescribed districts. (*People vs. Easton*, 13 Abb. Pr. N. Y. 159.)

As a rule the public statutes provide that the school officers of the school divisions of a state shall furnish school facilities for all children of legal age who may apply for admission. In Pennsylvania, however, it was held that such statute did not compel the directors to furnish schools for all children who might attend but had not applied for admission. (*On Petition*, 146 Pa. St. 212.)

Scholars who are not within the legal age are not entitled to free tuition in the public schools. (*Draper vs. Cambridge*, 20 Ind. 268; *Roach vs. St. Louis Public Schools*, 77 Mo. 484.)

A teacher is not liable in an action by a pupil or his parent for refusing to teach the pupil. There is no implied contract between the teacher and pupil in our public schools that the former shall teach the latter. The only contract of the teacher is with the officer or officers employing him. (See 2 Ill. App. 584; 23 Pick. (Mass.) 227; 111 Mass. 499.) The Supreme Court of Ohio alone has declared that such an action would lie. (*Roe vs. Denning*, 21 Ohio St. 666.) And in *Stephen vs. Hall*, 14 Barb. (N. Y.) 222, it is said that if an action can be maintained in such case, it should be brought in the name of the child. If a pupil not of school age is received and taught tuition may be exacted. This belongs to the school fund and not to the teacher, unless the pupil recites after school hours.

School authorities cannot refuse admission to a pupil otherwise entitled to admission because he refuses to sign a pledge not to join a secret college society. (*State vs. White*, 82 Ind. 278.)

Mandamus has been held to be the proper remedy

to compel the officers of a school to admit a pupil who has been unlawfully excluded. (See 56 Iowa, 476; 32 Ill. App. 300, and 48 Cal. 36.) As a rule where a child has been wrongfully excluded from a public school by the teacher, his remedy is by appeal to the board of trustees, and such appeal must be taken before mandamus will lie. (*People vs. Board of Education*, 4 N. Y., Sup. 102.) A complaint in an application for a mandate to enforce the admission of a person to a common school must affirmatively show that the applicant is within the legal school age, unmarried, and white. (*Draper vs. Cambridge*, 20 Ind. 268. [Neither a married person or a black person of the school age can be excluded now.]

Temporary Exclusion. In Illinois (26 Ill., App. 476) it was held that the board of education might exclude pupils from a certain school within the sub-district in which they board, and compel them to attend a school situated in the same district and in the sub-district where their parents reside, where the former school was crowded. Further, it has been held that children may be excluded temporarily for want of room. (See *People vs. McFall*, 26 Ill., App. 319.)

In *Tape vs. Hurley*, 66 Cal., 473, it is held that a Chinese pupil could not be excluded.

The constitution of Kansas provides that no distinction shall be made between the rights of males and females to attend the public schools. This rule almost universally applies in other states. In California it was held that a student could not be rejected from the universities of the state on the ground that she is a female. (54 Cal., 28.)

Compulsory Attendance. Compulsory attendance has been established in a number of states, Indiana quite recently. These laws provide that pupils between prescribed ages must attend school a given number of weeks each year. In Wisconsin and some other states truancy is defined and punishments are prescribed. (Laws Wis. Ch., 187.) In Indiana inspectors will enforce the law and penalties will run against the parents. This will require increased facilities and accommodations—for in Ohio it was decided that the compulsory attendance could not be enforced where there were not sufficient seating accommodations for the pupils compelled to attend under the provisions of the Act. (*Quigley vs. State*, 5 Ohio Cir. Ct. Rep. 638.)

The Massachusetts statute provides for the establishment, at the expense of the county, at convenient places therein, truant schools for the confinement, discipline and instruction of minor children convicted for truancy. (See Pub. Stat. (Mass.) chap. 48.) And the courts have upheld towns and cities in the establishment of such

schools. (*Synn vs. Co. Com'rs*, 148 Mass. 148; Same, 153 Mass. 40.)

(b) *Residence*.—In general, children whose parents are non-residents of a district, are not permitted to attend the schools therein. (See 26 Ill. App. 476; 23 N. H. 507; 65 Wis. 631.) Towns and cities are not authorized by law to open their schools to children whose parents or guardians reside in another state, and if they do so, no promise express or implied of the parents or guardians to pay for tuition can be enforced; but children whose parents do not reside in a district, if residents of the state, may be permitted by the school committee to attend the schools. (103 Mass. 104.) But in Missouri it is held, (30 Mo. App. 285,) that a minor who is neither an orphan nor an apprentice, and whose parents reside without the school district, is not entitled to attend the school of the district, although he has a home more or less permanent within the district.

Where children were sent into a district by their fathers to reside with an aunt, under indentures of apprenticeship, but which were made only for the purpose of sending the children to the school, were held to be trespassers and liable to an action by the district. (*School Dist. vs. Braddon*, 23 N. H. 507.)

Under the Connecticut statute it was held that a child whose parents are non-residents of the district, but who makes her permanent home with the consent of her parents with others who are residents of the district, is entitled to attend school in that district. (*Vale vs. School Dist.*, 59 Conn. 489.)

In the case of *Wheeler vs. Burrow*, 18 Ind. 14, it was held that parents residing in another state, by sending their children into Indiana for the purpose of procuring an education, did not obtain for them the right of admission in the common schools of the state.

The owner of a farm leaves it after making it his domicile for years, removes to the city with his family to take advantage of the school facilities; it was held that his children did not acquire a residence entitling them to the privileges of the city schools. (*Gardner vs. Board of Education*, 5 Dakota, 259.)

Where the school census returned children as residents of one district where their father resided, and they attended school in other districts, it was proper for the superintendent to transfer them to the latter districts and apportion the money accordingly. (10 Montana 17.)

The Supreme Court of Pennsylvania decided that school directors had discretionary power to send children to the schools of an adjoining district, but such power should be carefully exercised, as the abuse of this discretion by directors

would be official misconduct. (*Freeman vs. School Directors*, 37 Pa. St. 385.)

Under the statute Iowa children, residing in one school may attend school in another with the consent of the directors of the latter, provided their own school is not in session, and also provided they have not had the privilege of attending school twenty-four weeks in the year in their own district, and for such attendance their own district is liable to the district where they may attend. (*Horton Twp. vs. Oshegedan Twp.*, 49 Iowa 231.)

Children of United States naval officers residing on lands ceded to the United States for navy yards, forts, etc., are not entitled to the benefits of the common school. (1 Mass. 580.)

Children of paupers, supported at the county poor house, have a right to attend the public school in the district in which such county farm is located. (*School Dist. vs. Pollard*, 55 N. H. 503.) But the children, inmates of an orphan asylum in Cincinnati, are not entitled to gratuitous admission to the privileges of the public schools of said district. (*State vs. Dist.*, 10 Ohio St. 448.)

(c) *The Trustees of a school district are frequently authorized by statute to admit the children of non-resident parents under prescribed conditions.*

In a local statute authorizing the establishment of public schools in a town a provision that the local board may admit pupils, not residents of the town, on such terms as the board may prescribe, is not to be construed as allowing the board to prescribe terms which would cast upon the town or inhabitants any part of the expense of educating non-resident pupils. Such pupils cannot be received at a less rate per scholar than the residents pay by taxation for their children, nor can they be received at all to the exclusion of resident children who would otherwise attend. (86 Ga. 605.)

In Kentucky it was held that the admission of children outside of the district upon terms and payments agreed upon by the board was unobjectionable. (*Rodgers vs. School Dist.*, Ky. S. C., 13 S. W. Rep. 587.)

In Mississippi it was held that the actual *pro rata* cost of tuition for all non-resident children is that proportionate part of the entire cost of tuition in the separate school districts as the number of outside pupils bears to the number of scholars attending that school. (10 So. Rep. 57.)

Where the school inspectors of a city may, in their discretion, divide the city into school districts and forbid the children of the residents of one district to attend a school situated in another, the courts will not interfere with this discretion unless a plain violation of the law is attempted or unnecessary hardships imposed. (*Board of Inspectors vs. People*, 20 Ill. 525.)

To recover payment for instructions given to children of one district into another district, there must have been a previous arrangement between the directors of the respective districts under the law. (*School Dist. vs. School Dist.*, 43 Pa. St. 318.)

In Indiana the statute provides that a property-holder may transfer his school tax to the district and this will avail his children admission and instruction in the schools of that district though he may reside in another district.

STATE DEPARTMENT.

For the County Superintendent. At a recent meeting of the State Board of Education the order, requiring County Superintendents to have the envelope, containing examination questions, opened by a committee of teachers in the presence of the class and returned to the department, was rescinded.

It will not be necessary for you to return the envelopes in the future.

For the State Board of Education,

D. M. GEETING, President.

DAVID K. GOSS, Secretary.

* * *

State Licenses. The following is a list of the successful applicants for professional and life State licenses for 1897, dated May 14th.

PROFESSIONAL LICENSE.

Frank E. Addleman, Lynn, Ind.; Alfred H. Belton, Franklin, Ind.; Clark Bunnell, Wanatah, Ind.; John M. Campbell, Frankfort, Ind.; Herbert Charles, Economy, Ind.; Faustin S. Delany, Wilberforce, Ohio; Harry Evans, West Lebanon, Ind.; Geo. R. Fish, Rochester, Ind.; James D. French, Whiting, Ind.; Claribel Gardner, Lotus Ind.; Edward Gardner, Lotus, Ind.; Frank A. Gause, Bloomington, Ind.; Samuel C. Hanson, Williamsport, Ind.; Amos L. Hiatt, Kirklint, Ind.; Samuel P. Kyger, Frankfort, Ind.; Jacob Martin, Plymouth, Ind.; John J. Mitchell, Frankfort, Ind.; C. Bell Moore, Lawrenceburg, Ind.; Wilber F. Morgan, Ambia, Ind.; J. Benj. Mortsolf, Frankfort, Ind.; Frank K. Mowrer, Warren, Ind.; Eldredge B. Rizer, Wolcott, Ind.; George E. Rogers, Rose Lawn, Ind.; Chas. E. Shafer, Spiceland, Ind.; Thad. Stanley, Tillman, Ind.; Geo. H. Tapy, South Whitley, Ind.; C. E. Thomas, Bloomington, Ind.; Daniel J. Troyer, Goshen, Ind.; Wm. B. VanGorder, Knightstown, Ind.; Samuel Wertz, Columbus, Ind.; Chas. H. West, Fowler, Ind.

LIFE STATE LICENSE.

Wm. O. Bowers, Tabor, Ind.; John H. Carroll, Grand View, Ind.; Homer H. Cooper, Knights-

town, Ind.; Ernest Danglade, Vevay, Ind.; Finley Geiger, Hartford City, Ind.; W. A. Hamilton, Hebron, Ind.; Chas. W. Kimmel, Kendalville, Ind.; A. E. Martin, West Indianapolis, Ind.; W. V. Payne, Harrodsburg, Ind.; M. W. Rothert, De-gonia Springs, Ind.; M. J. Searle, Nineveh, Ind.; Jacob W. Wyandt, Angola, Ind.

D. M. GEETING,

State Superintendent of Public Instruction.

INSPIRATION.

Like hallowed tread of angels' feet in realms un-
seen,

Like summer zephyrs blown on fields of green,
Like silent musings o'er life's shattered dream,
The holy summons comes.

Nurtured by heaven's dew drops, soon it brings
A touch of God Himself; from Whom springs
The light of soul's existence; wisdom sings
With unrestrained song.

Softly, with harmonizing sound and accent sweet,
The diapason of the lyres of angels meets
The songs of the inspired, and with hallowed sweep
Wafts them to the skies.

The soul, resplendent as the morn, has caught the
strain
And borne to higher realms doth there remain,
In touch with truth, to happily proclaim
Its own existing self.

Purged with a touch of higher life and sweeter love
The soul, made better by inspiration from above,
Transcends its fellows, and with freedom doth re-
move
All base designs.

HARRY A. MILLER.

CATARACT, IND.

QUEEN VICTORIA'S BIG FAMILY.

Queen Victoria has had over seventy descend-
ants, over sixty of whom are living. She has had
nine children, seven of whom are living, and in-
numerable grandchildren and great-grandchildren.
Her sons and daughters who are living are the
Prince of Wales, the Duke of Connaught, the Duke
of Edinburgh, the ex-Empress Frederick, of Ger-
many, the Princess Christian, the Marchioness
of Lorne, and the Princess Beatrice. Among her
descendants are Princes, Princesses, Dukes, Duch-
esses, one Emperor, two Empresses, one Mar-
chioness and a Lady.—WILLIAM GEORGE JORDAN in
June Ladies' Home Journal.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, } Editors.
CHARLES M. CURRY, }

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The Southern Indiana Teachers' Association.

In another part of this issue will be found a criticism from Superintendent W. P. Shannon of Greensburg, on the report of the Southern Teachers' Association, published in the last issue of this journal. The writer of the report was simply giving his impressions and the impressions gained by talking with other teachers who attended the convention. The estimate of the work may not be just; it evidently does not correspond with the estimate of Mr. Shannon. However, the writer

of the report did not have in mind any of the quotations cited by Mr. Shannon, although he thinks that the one about the earth-worm, taken in the way in which Professor Jackman presented it, is somewhat sweeping. The writer of the report refrained from quoting Professor Jackman because, to the best of our knowledge, the address was not published and quoting a man from memory is liable to be unsatisfactory to all concerned.

The impressions obtained by the writer of the report and others may be incorrect. Professor Jackman may not have meant to leave them with his audience, but the points to which the writer referred in the quotations given from the report in Mr. Shannon's letter may be stated in general as follows: The writer would object to the pre-suppositions upon which Professor Jackman's lectures were founded. He does not believe that the science of the past is a failure and that scientists have been working on wrong lines, or that their work has been, in any large measure, fruitless. The statements quoted from Professor Jackman's addresses in the criticism of Mr. Shannon were given, as the writer understood it, to establish the above criticism on science. Scientists in the past may have considered the earth as more fixed and less changeable than it really is; they may not have thought of the atmosphere, water, rocks and soil, as envelopes; they may have thought of the hills as old, whereas they are really new; they may have given more attention to volcanoes than they have to earth-worms; still all this does not prove that the science of the past is a failure.

The writer does not believe that when one goes out into the field to study plants he always finds the plant that the botanist has not classified. He cannot agree with Professor Jackman that what we want to do in the line of science, is to make a scientific study of irregular forms. To the writer's way of thinking, there is not much more time for the study of freaks in science than there is for the study of freaks in other lines of work.

The writer thinks that from Professor Jackman's lectures the public school teacher would get a very exaggerated notion of her duties with regard to teaching nature work. She would get the idea that she was to devote a good deal of time to the work and in her struggles with bugs, flies, flowers, shrubs, rocks, hills, streams, etc., would waste a good deal of time. Enthusiasts in all lines of work should recognize the fact and emphasize it when they are addressing the rank and file of teachers, that there are other lines of work to be presented in the public schools besides their particular hobbies.

The writer is in sympathy with nature study in

the public schools and believes there is a place for it, but the work needs to be carefully planned and organized and given only its proper place and time among other lines of work equally important in their way. He has no inclination to misrepresent Professor Jackman or to criticise him unjustly and merely presented his impressions of the work at the association for what they were worth.

* * *

**Kentucky
State
Teachers'
Association.**

The teachers of Kentucky are anticipating, this year, the largest and most successful meeting they have ever held, and Bowling Green is making every effort possible that shall help them to realize this expectation. The program as sent out by the Secretary, Superintendent Crabbe, is unusually full, while the local committee is preparing abundant entertainment in the way of music, recitals, excursions, etc.

Preliminary to the general session the Superintendent's Section will meet June 29, at which addresses will be given by Hon. W. J. Davidson, Superintendents J. W. Rawlings, Aaron Grady, E. W. Weaver and Dr. R. Heber Holbrook.

The four sessions of the general association to be held on Wednesday and Thursday, June 30 and July 1, will open with an address of welcome by Hon. John M. Wilkins, to which Superintendent M. A. Cassidy, president of the Association, will respond. Then follow addresses by President Jas. K. Patterson, Hon. W. J. Davidson, Superintendent Crabbe, Superintendent Livingston, Dr. Rucker, Superintendent McChesney, Professor Nelson, Professor Burton, Superintendent McBroom, Hon. A. L. Peterman. Superintendent Evans, Miss Schmidt, Superintendent Anderson, Professor W. C. Grinstead, Miss Sasseen, Superintendent Rhoads, Professor Willis, Chancellor L. H. Blanton, Miss Wiard, Professor P. W. Grinstead, Superintendent Burke, Miss Hill, Miss Charles and Miss Lewis.

Ample provision has been made for the discussion of all the papers, and the names appearing on the program give assurance that this will be ably done.

* * *

**"The Lock-Step
of the
Public Schools."**

Under that striking title in the *Atlantic Monthly* for June Mr. William J. Shearer, superintendent of the Elizabeth, N. J. Schools, discusses the grading and promotion system in general use all over the United States. After noting, briefly, the familiar objections to the system, he states his experience in grading classes so as to admit of continuous promotion. He assures us that the plan has stood

the test of careful trial in at least three cities, and that the results are wholly good. The scheme, in brief, is to allow pupils who are capable of rapid progress to go ahead as fast as they wish in one or two of the most essential studies. Those who work more slowly follow at their own chosen rate, or according to their ability, but each group with equal thoroughness. Finally come those who need to go very slowly. The result of such a classification will be probably four or five groups from one to two months apart, and in classes where the possibility of individual attention is increased four or five fold. Now, if a pupil is ambitious enough to overtake the group in advance of him, he need not make up nor jump a whole year, but only the short interval that separates the groups; while a pupil who cannot quite keep up drops back only that much. To gain the extra time needed for this multiplication of classes students are grouped into larger classes than usual for the less essential studies where individual assistance counts for less.

There is no final examination, and at the opening of a new term or a new year pupils resume the work where they left it.

Thus Professor Shearer would break up the old "lock-step" which tends constantly to make a school a machine instead of a living organism.

The advantages are obvious. There is no curbing of ambition, and hence, no excuse for idle and disorderly pupils. The temptation to drop out before final examinations, or to stop school entirely on account of failure to pass, as under the old plan, is entirely removed. Thus, the rate of attendance is increased and more pupils complete the course. Moreover, the freedom offered to the brighter pupils enables them to complete the course so much more quickly as to insure a considerable saving in time for them and in expense for the state.

Professor Shearer presents some interesting statistics upon this phase of the subject. The whole plan is a clever one and must prove attractive to earnest teachers who can not help deploring the absence of a better system of grading and promotion.

* * *

**Professor
Sandison
Honored.**

The Normal students in the University at Bloomington, together with the visiting members of the Alumni, tendered to Professor Sandison a banquet at the close of the Child-Study Congress at Bloomington, on Friday evening, May 7th. The banquet was given at the Gentry Hotel, and forty-seven people sat down to the spread. It was an expression of the high esteem in which the students who have had work with Professor Sandison hold him. The friends of Professor Sandison met

in the parlors of the hotel at 8 o'clock, and spent an hour or two in social enjoyment and the renewing of old friendships, after which the banquet was served in the dining-room of the hotel, which was beautifully decorated for the occasion.

At the close of the banquet several toasts were proposed and happily responded to by members of the party. Professor F. E. Mitchell, of the State Normal School at St. Cloud, Minnesota, this year finishing his course in the University, acted as toastmaster. This part of the program was brought to a close by an address from Professor Sandison in response to the toast, "The Teacher." The remarks of Professor Sandison were pointed, and he showed in all that he said his deep appreciation of the honor shown him on the occasion. The guests departed at a late hour wishing their old teacher a long and happy continuance of his useful life.

* * *

Another Year.

Before we issue another number all the public schools will have completed another year. This is the month of commencements, and flowers. This is a good time to look over the year's work. Of course no real teacher will be satisfied with his year's work, but he will recognize his shortcomings, and hope to improve next year. If any teacher has tried *driving* this year we hope he will face about and become a leader next year. If any teacher has slapped his pupils this year, or whipped their hands with rulers, or said cruel things to them, or been guilty of keeping a "dummy row," let us hope that he will gain larger pedagogical insight before another year, or change his profession. There are too many good teachers now standing, waiting, to fill the places, for any school board to retain an incompetent person. There never was a time when boards could be so independent. There never was a time when more was expected of teachers. The retention of an incompetent teaching force to-day is criminal. Throw politics to the winds; the people demand better teachers; the people will have them.

* * *

The Act of Teaching.

Under this subject Professor John M. Coulter of the University of Chicago, makes some very suggestive remarks in *The University Record* of May 21st. The article is treated as one of the present problems in education. Among other things he says: "This is quite independent of the subject-matter and has no reference to equipment of the school in material things. It concerns simply the contact of teacher and pupil in the act of teaching. Perhaps the most difficult work of the teacher is to appreciate the exact mental condition of the pupil in reference to any

subject. Unless there is complete adaptation in this regard the contact is a failure, leading to mutual disgust and mistrust. It has been my good fortune to witness a large amount of teaching in all grades, and the impression left upon me has been one of astonishing lack of simplicity and directness in the presentation of subjects, resulting in utter confusion. My own conclusion has been that this indicates either ignorance of the subject, or lack of teaching ability, or a wooden application of some pedagogical refinement which has been learned somewhere, and which is either not worth applying in any case, or is woefully misplaced. Hardly can there be imagined a worse combination than wooden teaching by one ignorant of the subject. In a great mass of teaching instead of using clear expression and a direct presentation, the effort seems to be to use most unusual phrases, as far from an ordinary vocabulary as possible, and to approach the subject in such a devious way that its significance is in danger of being missed.

* * * To inject the abstractions and phrasemaking of normal training into the school-room is to dismiss clearness and all intellectual contact with pupils. This is no criticism of pedagogical training, for I would be the last to suggest that any profession should be attempted without professional training, but it is a criticism of those teachers who do not know how to apply their training and follow what they regard to be rules, rather than principles. * * * I have almost concluded that the great problem in the act of teaching is not how to impart instruction, but how to oppose the fewest obstacles to mental development. The human mind has a mighty way of overcoming obstacles, but, as teachers, we have no right to attempt to make them insurmountable. I have almost cried out in indignation when witnessing some pupil whose quick mind has discovered short cuts to results, ruthlessly forced upon the procrustean bed of method by some teacher who knows only one way. It is such things that bring the profession into deserved contempt, as one that has not yet emerged from blind empiricism. * * * In no part of educational work is flexibility in presentation and in material so necessary as at its very beginning. Truth is many-sided, and it is always a question as to which side shall be presented. The teacher who only knows one side is hopelessly lost, and hence becomes dogmatic and useless. For instance, I know of no science teaching that demands a broader grasp of the subject-matter and a more facile adaptation of material to purpose, than nature study in the lower grades. So long as it is committed to teachers with no scientific training I predict that it will be a failure. * * *

The act of teaching demands a knowledge of subjects as well as of methods, that there may be the greatest amount of flexibility in presentation; it demands simple language and a very direct style; entire suppression of the philosophy of the subject until there are facts enough upon which to found a little simple philosophy; complete abolition of all pedagogical cant; and a reverence for truth that will not permit it to be trifled with in order to arouse a factitious interest."

Golden Gate Special.

The special train to San Francisco, California, to attend the Christian Endeavor Convention, will be a personally-conducted train under the direction of Chas. F. Patterson, of THE INLAND EDUCATOR. Being a private train of Pullman vestibule, palace, drawing-room and sleeping cars, the number of passengers will be limited. It will have dining-car and baggage and will combine all the features of the home. With the exception of the eight days spent in San Francisco and the five and one-half days in Yellowstone Park, tourists may have all the comforts of home on the train. The trip of 7,000 miles will be over the best roads in the United States. These lines have been selected because of their smooth road bed, scenic attractions and careful management. This train leaves Indianapolis on the afternoon of June 29th, via Pennsylvania lines to St. Louis, Wabash lines to Kansas City, "Rock Island" to Denver. Thence by D. & R. G. to Colorado Springs where a stop of two days will be made, giving party a chance to climb Pike's Peak, visit Garden of the Gods, Cheyenne Canons, Glen Eyre and other points of attraction. The train will stop at Royal Gorge giving tourists full opportunity to enjoy the scenery. At Salida a special narrow-gauge train will carry us over the greatest scenic route in the world, an all-day trip to Grand Junction, where party will find our standard-gauge train which we left in the morning. Thence we proceed to Salt Lake City where we attend services in the Mormon Tabernacle, then go out to Salt Air Beach. Thence to Ogden and San Francisco. Party stops here eight days, and will have a chance to go to Southern California, down by ocean and back by rail. July 14th the special will start for home via Portland, Tacoma, Seattle, Spokane and Butte via the Northern Pacific road to St. Paul. We have stop at Yellowstone Park, thence to Chicago and Indianapolis.

Those who desire to take this trip must send in their names early to be assigned places in the chartered Pullman cars. Those who desire to pay berth rates and stop at hotels on the way will have the advantage of special party rates at hotels

and livery hires. Please address all communications to Chas. F. Patterson, Edinburg, Indiana.

Domestic Science in the Public Schools.

We have received the following brief statement from the president of the Society of Hygiene and are glad to give it space in our columns. The subject is certainly one of vital importance, and deserves the attention of all thinking people, especially teachers. We doubt whether the work suggested lies within the province of the school, but certainly the school has it within its power to do a great deal along these lines. The work really belongs to the family, but as the years go by these two institutions get closer and closer together, and some of their duties seem to be in common. There is no doubt in the world of the need of training along the lines suggested, and, perhaps, after all it may be possible to find a place for them in the public school curriculum. We are sure that in so far as the lines suggested pertain to true womanhood they may belong in the public schools:

"THE FOUNDATION OF A HAPPY HOME IS LAID IN THE KITCHEN."—*Marion Harland.*

In accordance with the program of the National Household Economic Association the Society of Hygiene takes the present opportunity of suggesting that the time is ripe for Indiana to begin teaching Domestic Science in its public schools.

The majority of the girls who attend our common schools will become wives and housekeepers. They will have to cook, and to sew and to take care of children.

At the present time many valuable lives are sacrificed and much misery produced, to say nothing of money wasted, because our men, and particularly our women, do not understand the best methods of ventilation, the choice and preparation of foods, selection of materials and making of houses and clothes, the care of children, and the many details connected with a well-ordered home life.

Dr. Mary Green says: "The American people have long been accused of wastefulness, and extravagance and a general disregard of sanitary laws and home hygiene. As a people we are given over to dyspepsia and nervous disorders, with the logical result of increasing vice, intemperance and insanity. Too much of this may be traced to an unstable, unscientific home life, in which the mistress is generally unfitted for her work, while the maid is often both incompetent and unwilling to become otherwise."

We think that these defects will not be remedied until the young are trained in accordance with the best scientific thought of the day. We believe that the public school, up to the high school, is the place for this training; a training obviously neglected at home. Industrial education seems to be the solution of the question of how to make the school both interest the growing child and fit it for the duties of life. Industrial training for girls, means primarily, cooking, housekeeping and sewing; i. e. household or domestic science.

"By every possible means, public sentiment should be so aroused as to demand that household science be taught in the most practical and scientific way in every public school in America, up to the high school work. This, if accomplished, would go far towards solving the domestic service problem, besides preparing all girls for what will be the life work of the great majority of them, the making and keeping of a home. The majority of children of the working classes leave school before reaching the higher grades, for the purpose of earning money. To-day many of these girls will enter stores or factories, for from two to four dollars per week, boarding themselves, rather than taking up domestic service for the same wages with board and room furnished. If household science were taught in the public schools it would at once rise to the dignity of the other school duties, and intelligent girls, from motives of all false pride, would no longer hesitate to enter service. Competent, at least intelligent, domestics could then be secured in our homes, to say nothing of the comfort and harmony in

store for the future homes into which these girls themselves will enter as mistresses. Competition, which now keeps the wages in store and factory down to the very starvation line, would be greatly lessened, with the result of raising the standard of wages in these employments."

We believe these ends are worth striving for, and desire through the local council of women to enlist the co-operation of teachers and all others who are in favor of this important work.

MARY A. MOODY,
REBECCA WOOD,
HESTER M. McCLUNG, }

RACHEL SWAIN, M. D., President.

Committee.

Here is another article taken from the columns of "Squibs and Sayings" in the *Rockville Tribune*, which bears upon the points suggested above, and is certainly very worthy of the attention of teachers:

I wish I knew who was the propagator of the idea that domesticity is stupid, and a domestic woman a cumberer of the earth. I venture to say that if this doctrine, which has become so popular, were sifted, it would be discovered that it emanated from the brain of some woman who was too lazy to do a hand's turn, and could be perfectly happy and contented in a filthy house, and with a ragged family and a poor, half-starved husband. In this brief life of ours little can be accomplished. The time of fruition is now, and today is the important thing. Is home all right for the day? Are the beds made properly, the rooms nicely arranged, and is there a prospect for a good dinner? It is to be hoped that there is no occasion for racing through the work, or leaving it partly done, or putting the family on half rations. Life goes at a break-neck pace when there is something "going on," and when all is over comes a sense of unequilibrium and loss scarcely to be understood. It is a question whether the domestic woman's life is the narrow one. There is a pleasure for her in a sweet, clean pantry and a neat, tidy kitchen as keen, and perhaps as noble, as any thrill of satisfied vanity which is the reward of the society woman. A friend of mine once said, in speaking of the elusive quality of happiness, that one of the warmest thrills of rapture she had known was caught in the sleepy chirp of a baby chicken as it cuddled under its mother's wing at night. Another, who is gifted with that invaluable quality of common sense, remarked that she couldn't tell which she enjoyed most—making a kettle of soap or going to a party.

Beware, then, how you ridicule the domestic woman. Maybe she is happier than you are. And be sure her happiness is not less noble if she finds a clean back porch and kitchen-garden enjoyable. She has, at least, the quality of genuineness in her work, and is more likely to succeed with it than are many of the dabblers at a "higher life." Don't sit in a dirty room and read Dante, and feel superior to your home-keeping neighbor, for I will venture to say that the evil days in which we shall say "I have no pleasure in them" will come sooner, far sooner, to the woman who is sounding the higher life than to her who counts her spoons and table-linen rapturously, contemplates clean boards with bliss, considers well-aired and dusted rooms a means of grace, and is not entirely unknown to the exciting amusement of numbering the pieces on a neighbor's clothes-line.

A Breath of Country Air.

"The closer we can bring children to Nature the better men and women they will become," writes Edward W. Bok, in the June *Ladies' Home Journal*, in a plea that the poor children of the cities be given a summer outing in the country, and showing how cheaply it can be done through some of the various organizations engaged in that humane work. "The boy or girl whom, this summer, you can be instrumental in either sending to or receiving in the country, will, in the coming years, very likely be a father or a mother. The glimpse you may give such a child of the country this year may modify for good, not only the life of the little one who is the receiver of your thoughtfulness, but later, of his or her children. It is often the simplest thing we do which has the widest and most far-reaching influence.

"Our own pleasures will be the fuller this summer if we know that somewhere amid green fields and pure air some little child is enjoying a vacation which but for us it might not have had. Far away from us, perhaps, but under the same blue sky that gives zest to our feelings, and sunned by the same sun that brings health to us, there will be some grateful mother offering blessings to God for the unknown hand of mercy stretched forth to save the life of her little one. You will have brought sparkle into eyes that were listless; roses into little pinched cheeks; limbs almost crippled by disease will have responded to your medicine. And

in some beautiful field yellow with shining buttercups there will be a healthy child romping with glee and breathless with a new delight."

This is the humane side of the question. There is another phase that may be emphasized from the teacher's point of view. These poor, starved souls are hungry for something to feed upon. With no exercise for eye, or ear, or sense of smell, save the wretched sensations that come from the roof of the flat, what images can be stored up for use in future interpretations? For such as these no joy can come from reading books that tell of winding streams, and running brooks, and hedge-row flowers, and brown birds that sing, and hills and sunsets. What meager geographical concepts they must form—what meager concepts of life! These summer outings, brief though they may be, will furnish material for school work for many days.

Journal of Speculative Philosophy.

If any of our readers can furnish us with any or all of the numbers of the *Journal of Speculative Philosophy* they will confer a favor by quoting terms to us.

Queen Victoria's Sixtieth Anniversary.

On Sunday, June '20, all Episcopal churches throughout the world will celebrate the sixtieth anniversary of Queen Victoria's accession to the throne. The occasion is a fitting one for thanksgiving, for her reign has been the longest in English history, and is remarkable for the peace, progress and prosperity that have attended it.

The week ushered in by this thanksgiving service is to be one of general jubilee and rejoicing among the 320,000,000 of Her Majesty's subjects.

Preparation for the N. E. A.

Those who attended the Buffalo meeting last year felt that the arrangements there were as nearly perfect as possible, but Milwaukee is sparing no effort to make the Association this year equally if not more successful. The preliminary program announces all that could be desired in the way of speakers, and assures a week of inspiration for the twenty thousand teachers that Milwaukee hopes to entertain July 6—9. Among those who have promised to deliver addresses at the General Session are Hon. Chas. R. Skinner, President of the Association; Bishop John H. Vincent; President Wm. R. Harper; Rev. Lyman Abbott; President Jas. H. Canfield; Superintendents Newton C. Dougherty, Carroll G. Pease, Jas. M. Greenwood, Jas. A. Foshay; Doctors A. E. Winship and Alexander Graham Bell; Commissioner Corson, and others.

Of course the old faithfuls, Dr. Harris and Dr. Hinsdale will be there, aiding in the discussion, with Hon. Henry Sabin, Dr. Jordan, Dr. Dewey, Superintendents Gilbert and Gove, Dr. Baker of Colorado, and so on.

President McKinley has been invited.

The National Council of Education will hold its sessions on July 5 and 6, being the Monday and Tuesday of Association week.

The usual rates of one fare plus \$2.00 are announced for the round trip.

* * *

County Superintendents. On June 7th, the election of county superintendents in Indiana occurs. There will probably be a larger number of changes than at any time for many years. A change in the political complexion of the trustees is the cause. One of the weakest features of Indiana's system is the fact that the first question to be answered in filling this important office is, What is the candidate's politics? If it were required first, that the incumbent be a strong, progressive, school man, and the qualifications of all candidates in this direction being equal, if the law provided that politics might then determine the choice, there would be no objection. But in too many cases educational and professional equipment cuts no figure. Service to party, needy circumstances, the desire to enjoy a sinecure as a stepping-stone to the law or medicine, should not be considered in this matter. If there is an office that should seek the man this is surely the one. Our schools can never hope to become what they ought to be till some change is made just here. In this election, let us hope that the trustees will remember that the school exists for the child, and not for the county superintendent.

* * *

Dr. Rice Again. We notice the recent announcement that Dr. J. M. Rice, who recently achieved considerable notoriety as the critic of the school systems of leading cities, has assumed the editorship of *The Forum*. This magazine is one of the foremost in the serious discussion of all the weighty problems now pressing upon an enlightened people for settlement. It is difficult to see just on what principle Dr. Rice has been selected to direct affairs, and all who are acquainted with his past work will await with great interest the result of his influence on *The Forum*. In the educational field his work has been mainly of a destructive nature, and while the series of articles now appearing promised something constructive, the promise has not yet been realized.

Foreign Appointments.

Among the appointments of President McKinley, as ministers to foreign countries are the following: England, Col. John Hay; Germany, Andrew D. White, ex-president of Cornell; Turkey, James B. Angell, president of University of Michigan; Austria, Charlemagne Tower; Belgium, Bellamy Storer; Mexico, Powell Clayton; Hawaii, Harrold M. Sewall; France, Horace Porter; Italy, Col. Draper.

* * *

Arbitration Defeated.

The much amended treaty that was signed by Secretary Olney and Sir Julian Pauncefote some four months ago finally reached a vote in the Senate May 5 and was defeated. Forty-three Senators voted for ratification, twenty-three against it, and nineteen did not vote at all. Thus fades the immediate prospect of a universal reign of peace. During the long debate some Senators have complained that the treaty was calculated to deprive them of certain prerogatives, others that it was inconsistent and contradictory in terms, still others that by some doubtful interpretation we should sign away our right to defend the Monroe Doctrine, while Senator White declared that the document was full of illogical propositions, and that its syntax would have to be improved before it would be thoroughly acceptable. Some advocates of the treaty find comfort in the belief that we shall have no difficulty in securing arbitration upon any specific difference that may arise, and that a general treaty might involve both nations in complexities that would hinder rather than favor arbitration. The English newspapers are inclined to regard the rejection of the treaty as an expression of constitutional bitterness. On the other hand, it is doubtless true that the attitude of England towards Armenia, Crete and Greece has had more or less weight in the consideration of this treaty.

* * *

The Eastern Situation.

The Greek defense of the frontier of Thessaly failed through either inefficiency, fear or disloyalty on the part of the leaders. It was not certain, of course, that the posts could have been held with the greatly superior force of Turks against them, but the Greeks fought desperately and bravely, and seemed to have the advantage when an unexpected order for retreat was given. This yielding of advantage aroused such anger at Athens that a revolution was feared. Indeed, it is believed that King George held his throne only by dismissing the cabinet led by M. Delyannis, and calling M. Ralli, one of the strongest leaders of the opposition, to form a new cabinet. Germany and Austria declared openly in favor of Turkey.

Popular favor in England, France and Italy is clearly with Greece, although the governments are all against her. Russia calmly waits to see where her best interest lies. When that appears her policy will be known.

Meanwhile the Powers have demanded peace, and consistently with their deplorable policy, they impose the conditions of peace upon Greece alone and then practically leave her to the mercy of Turkey. Under such encouragement the Sultan has changed his mind, and although he declared that he was not fighting for territory, he now thinks that in addition to a large money indemnity he would like Thessaly also!

The Grecian Minister of Education has declared that the war was virtually between the Crescent and the Cross, with the Powers of Europe arrayed against Christianity.

SOUTHERN INDIANA TEACHERS' ASSOCIATION.

To the Inland Educator:

In your write-up of the Southern Indiana Teachers' Association, I am sorry to see what I think an unjust criticism of Professor Wilbur S. Jackman. It is this: "Those who heard these two lectures, while acknowledging that there were many helpful suggestions thrown out by Professor Jackman, were conscious of the fact that he made a great many sweeping statements about science which it would be difficult to establish. One is sometimes led to doubt whether or not the enthusiastic, practical hints of such lectures are of sufficient value to out-weigh the exaggerations indulged in." I myself was not impressed in this way. I felt that Professor Jackman was well informed of the best scientific inductions of the day. His sweeping statements were simply a few points from the consensus of the scientific world. If the writer of the above had mentioned some of the "sweeping statements," I should be in position to say something to the point; however, I think I know what he refers to. Professor Jackman said something like this: "Even the hills and mountains are changing." J. W. Powell, late Director of the United States Geological Survey, says: "The earth has three moving envelopes. These are, first, the *atmosphere* * * * ; second, the *water* * * * ; and, third, a garment of *rock* in beds, layers, and piles. * * * What we need is to understand clearly that there are three pretty well defined envelopes that are in motion, and ever interacting among themselves in such a manner that there are sea bottoms, plains, plateaus, mountains, hills, and valleys in the rock envelope; there are seas, lakes, streams, and clouds in the aqueous envelope; and there are winds in the atmospheric envelope; and that the winds, clouds, storms, streams, lakes, seas, valleys, hills, mountains, plateaus, plains, and sea floors are all related to one another; and hills and valleys follow in succession, for the land seems to be always rising and falling."

Again, Professor Jackman said, "We often hear it said, 'As old as the hills.' The hills are not to be considered old, they are new." Bailey Willis, in his monograph on the Northern Appalachians,

says, "We shall see that the transverse rivers are older than the existing ranges, and that they developed their course on a broad plain." He shows that the rivers were on the ground first and have held the right of way.

Again, Professor Jackman said that the work of fishing-worms is greater than that of volcanoes. This is not an exaggerated statement. In speaking of earthworms, Professor N. S. Shaler says, "These creatures get their living by eating their way through the soil. They take the earth into their stomachs, take from it what there may be that they can digest; they then cast the earth out again; but, while in their bodies, the earth is exposed to the acids which serve to digest the food, and is more finely divided. Now, as in most soils there are many thousands of these worms to the acre, and as they are always at work, except when the ground is frozen, it is reckoned that they pass all the soil on which they live through their bodies every few years. There is no doubt that these humble creatures do a work that is fit to be compared with that of the rivers or sea-shores, in grinding up the elements of the earth into the finest mud." This gives some idea of the aggregate of work done by fishing-worms. The point of Professor Jackman's comparison was, no doubt, the general elevation of the surface due to the pulverizing of the soil.

W. P. SHANNON.

GREENSBURG, IND., May 19, 1897.

CHILD-STUDY CONGRESSES.

THE CHICAGO MEETING.

A meeting of the fourth Congress of Child-Study was held in Chicago, under the auspices of the Illinois Society for Child-Study, April 28-May 1, 1897.

Of that society, Col. Francis W. Parker, Principal of the Chicago Normal School was president, and Dr. C. C. VanLiew of the Illinois State Normal School at Bloomington, vice-president. These two men are leading spirits of the society, and the success of this congress was largely due to the vigor and organizing power of these officers. It was in all respects the strongest congress that has been held. The congress was fortunate in having Col. Parker as its presiding officer, because of his great interest in the subject and because for many years he has been working toward this movement.

He has constantly urged the thought that the child itself is the center in all education and the key to the whole work. He looks at the subject from a very wide standpoint, and has a large thought concerning it. He does not regard child-study as a small thing that relates merely to the public school teacher but rather something of interest to every phase of society, and under that idea he includes the federated clubs of Illinois, all musical organizations, medical societies, kindergartens and all work related to the kindergarten, the Sunday schools and churches, and the schools in all the different grades. To carry out the plan of creating a general interest, the meetings, of which there were at least three a day, were held in almost every part of Chicago. The whole congress fell into two divisions. There was first six or eight meetings that were practically meetings of workers in the

child-study movement, and these were held in the Chicago Normal School building. The congress opened in an 8 o'clock session, which was called a monthly parents' reception. It was a joint meeting of the parents and teachers of the Chicago Normal School. The meeting was for the purpose of giving an opportunity for the parents to speak of things that the teachers might do to promote their children's welfare. The principal of the school had sent to each parent this statement:

You are cordially invited to attend a regular monthly parents' reception, Monday evening, at 8 o'clock. Colonel Francis W. Parker will answer the question, "Why do I send my child to school?" by a lecture called "The Ideal School," and this is to be followed by a discussion.

They came to the meeting then with the thought before them, "Why do I send my child to school?" In a very clear and interesting way Col. Parker took up the question. In discussing the question he answered it by saying first that an ideal school never sets up *knowledge* as its end. This he illustrated in many ways. He went back to the great thinkers, showing the ideas that they successively had, indicating that each one had a certain limit, and that in addition, being in schools under monarchical influences, they could not give free play to their ideas, as can be done in the United States. It may well be doubted whether any work could be more helpful to a community than such meetings as this in which the fathers and mothers come there together, with freedom to question and suggest, and in which they learn how they can assist the teacher.

The next meeting was one devoted to the discussion of the proposed North American Child-Study Conference. Illinois has its Society for Child-Study, so has Iowa, Minnesota, Indiana, etc. The idea was to unite a number of states for a higher and more extended work. Several of these states are undertaking publications like the Illinois Society for Child-Study, and it was thought best to form a more general society, composed in its membership in this way: the officers of each state society, and in addition some twenty-five delegates appointed from each state. This discussion was continued during two meetings. Finally Dr. Wm. L. Bryan of Indiana was chosen president of the society, and Dr. C. C. VanLiew of Illinois secretary-treasurer.

On Tuesday afternoon, April 27, at 2 o'clock, this conference was continued, and then there was an interesting session in which experiments were made by the post graduates of the Professional Training Class of the Chicago Normal School, under the direction of Dr. Colin A. Scott. The following topics were discussed at this meeting: 1. Fatigue curves with Mosso's Exograph, 2. Testing with dynamometers, 3. Reaction-time for touch, sight, and hearing, 4. Testing eyes for far and nearsightedness, 5. Testing for color-blindness, 6. Testing for tactual discrimination, perseverance, etc. Suggestions were made showing how any school teacher could make these tests.

On Tuesday night at 8 o'clock there was a very interesting meeting. It was a Faculty Meeting of the faculty of the Chicago Normal School. It was an open meeting in the large hall on the fourth floor. The seats were arranged in a circle so as to give positions for the members of the faculty about thirty in number, and then all around that, circles of chairs were placed for the audi-

ence. Colonel Parker presided at this meeting. The discussion was in reference to certain printed questions. The principal of the school had asked the kindergarten teachers and the practice teachers to prepare questions they wished to have discussed. These questions were circulated so that every one in the audience had the questions before him. The discussion was conducted in this way: The principal said, for example, to the kindergarten teacher, "Which one of the questions that you have asked would you prefer to have considered?" The kindergarten teacher, Miss A. E. Allen, said that she would be glad to have this question discussed: "What are good means of ascertaining the mode of imagery strongest in each child?" Then the subject opened with this discussion. Many gave their experiments with that kind of work. Appeals were made to outsiders to take part in the discussion. Among others, Dr. S. F. MacLennan of the Chicago University gave quite an interesting talk in regard to it. The following are the questions the kindergarten teacher presented for discussion:

Can some plan be recommended by which the experience of parents, physicians and others who are scientifically qualified may be brought to bear upon the answering of the following questions?

1. How are the various nervous diseases of children to be determined? How dealt with?
2. What are satisfactory tests for defective eyes, ears, speech, spinal trouble, etc.?
3. How far can temperaments be differentiated? How can this diagnosis of temperament be made to serve the ends of individual development?
4. What are good means of ascertaining the mode or imagery strongest in each child? Are there any suggestions which may be of help to the kindergarten teacher in the adaptation of work with a view of making the most effective use of the special mode of imagery?
5. How is the dramatic instinct in children best fostered and preserved?
6. Does child-study furnish any data to help the teacher discover the point where the purely play element reaches out into the region of action directed with more purpose?
7. What is the best food for children under their several conditions?
8. How are the signs of fatigue best determined?

Miss Flora J. Cook, the teacher in the first grade, said that there were forty-nine children in her room, and that of these, twenty-eight have physical defects as follows:

Ear—9, (6 girls, 3 boys); Eye—4, (4 boys); Speech organs—10, (6 girls, 4 boys); Nervous trouble—5, (1 girl, 4 boys); Mentally deficient—2, (1 girl and 1 boy); Cripple—1, (boy).

Suggestions are needed for special work and treatment for these children. These and other questions were discussed in a very helpful way. On Wednesday morning at 9 o'clock this conference of workers was continued and these two questions were taken up:

1. How may Child-Study be made most Profitable for Teachers? 2. Pathological Conditions Induced by Wrong Education.

Wednesday afternoon at 2 o'clock a meeting was held which had for its purpose and discussion the best means of forming Mothers' Leagues and Round Tables. It was a meeting intended to discuss the best mode of forming what you might call "Parents' Meetings," or rather to consider the best mode of forming meetings in which parents and teachers can come together and discuss questions that mutually concern the two great institutions, the Home and the School. This meeting was presided over by Mrs. S. Jackman. The meeting there were various reports from

societies of the different federated clubs of Illinois. For example, some one would explain the different steps that were taken in forming a mothers' meeting in her community, and the interest that was manifested therein. It was said that these mothers' meetings were devoted to such questions as "Hours for study by children in the grades below the high school at home;" "Is it advantageous to have lessons assigned, and to have children take books home and study for an hour or two each evening;" "Punishments and the reasons for them," etc. The purpose of the meeting on this afternoon was to make clear to the large number assembled, the mode of procedure in forming such societies in different towns and to urge upon the audience the advantage of forming mothers' meetings.

On Wednesday night at 8 o'clock a meeting was held in Plymouth church, on Michigan avenue. This is the church in which Dr. Gunsaulus preaches. The music was conducted by Mr. F. W. Fairbanks. The introductory address was to have been given by Dr. Gunsaulus, after which the two following questions were to have been discussed:

1. "The Point of Contact in Teaching," Patterson Dubois, editor *The Sunday School Times*, Philadelphia. 2. "The Preparation of the Sunday School Teacher," Dr. Walter L. Hervey, president Teachers' College, New York.

The discussion was to be led by Miss Antoinette Lamareaux, Professor C. H. Thurber, University of Chicago, and Miss Amelia Hofer, editor *Kindergarten Magazine*, Chicago.

Dr. Gunsaulus, Mr. Dubois, Dr. Hervey and Miss Hofer were unable to be present. The meeting was, however, a strong one, since Professor Thurber presented an able paper on the value of child-study and Miss Lamareaux gave a clear and artistic discussion on the question Mr. Hervey was to have discussed. "Now you will have to assume," she said, "that Mr. Hervey has been here, and has made his discussion." And then she took up his work in a way that was so entirely logical, artistic and forcible that it was a fine example of truth, beauty and goodness.

Thursday morning at 9 o'clock, the regular opening of the Fourth Annual Congress occurred in Schiller Theatre, on Randolph St., between Clark and Dearborn Sts. At this meeting an excellent address, showing the principle and purpose of the Child-Study movement, was given by Albert G. Lane, Superintendent of the Chicago Schools. The next address was given by Dr. William L. Bryan, of the University of Indiana, on "Some Applications of Child-Study." Another address was made by Dr. Reuben Post Halleck, of the Male High School, Louisville, Ky., on "Education of the Motor Centers."

In the afternoon two meetings were held. The first was under the Sunday School Department in the Immanuel Baptist Church on Michigan avenue, and the second under the Mothers' Department in the Woman's Club rooms at No. 15, Washington street. A third meeting, held at night, occurred in Plymouth Church under the Kindergarten Department.

At the meeting under the Sunday School Department Mr. B. F. Jacobs, President of the International Sunday School Association, presided, and at the Mother's meeting Mrs. I. S. Blackwelder, Chairman of the Woman's Club Educational

Department, presided. These two facts help to bring out the wide influence of the Child-Study movement.

The different colleges, schools and associations in Chicago had finally awakened to the thought that everything was not going well in the educational world, and that there were some few things that might really be remedied in the educational machine. Generally the great weakness is that the people in their clubs, in their Sunday schools, in their churches, and in their business arrangements assume that the educational work is being conducted properly and they in consequence, turn all those interests over to the schools, and go on in their way without paying any attention to school work. But here one sees an indication of something different. Mrs. Blackwelder, Chairman of the Educational Committee of the Woman's Club, said that they do not merely meet to have light refreshments and discuss in a certain way some literature or history that is engaging attention at the time, but that they have one committee whose business it is to look into educational affairs, another into municipal affairs, and that the clubs were reaching out and becoming important factors in the various interests of society.

At the first meeting, under the Sunday School Department, there was one main address which was given by Professor D. L. Kiehle of the Department of Pedagogy, University of Minnesota, Minneapolis. Professor Kiehle was, at one time, Superintendent of Public Instruction in Minnesota. He came before the convention in order to discuss the relation of child-study to the Sunday school, and his subject was "Pedagogy in the Sunday School." He made clear the need of trained teachers and new ideals in the Sunday schools.

In connection with the discussion, when it came to a general participation, the question of compensation for Sunday school teachers was raised, and it was a subject which seemed very new to most of them. They had forgotten that in the early ages all teachers had presented their work without compensation; that in the time of Socrates, Plato, and Aristotle, teaching was generally done without compensation, and that finally it became the almost universal rule to have instructors paid. In the early ages among the Jews and Christians teaching was entirely without compensation. Then the statement was made that there was only one Sunday school in this Union that paid its teachers, and that was a Sunday school belonging to a Jewish synagogue in New York city. That statement having been made, a lady present, who seemed to have a very intelligent understanding of the subject, corrected it, saying that in the city of Chicago there was a Sunday school in which every teacher was paid a regular salary, and a part of the teachers in another Sunday school. Thus it seems that there are three Sunday schools in the United States in which the teachers receive regular compensation.

At the Mother's Department at the Women's Club Rooms three topics were to be discussed. One of them was "The Mother and the School," by Mrs. Marion Washburne of Chicago. Another was "Children's Secrets." This was to be discussed by Mrs. Ellen B. Burke, institute instructor of the state of New York, and the third was "Parents' Meetings," by Richard Waterman, Jr., secretary of the Education Committee, Civic Fed-

eration, Chicago This is another instance of an institution in which there is a strictly educational committee, whose duty it is to look into the schools, into the employment of teachers, into their qualification and into modifications in the course of study, and otherwise to act so as to have an important influence on the schools. Of these three papers only one was presented.

Mrs. Burke on "Children Secrets" was very capable in her treatment of the subject. She showed that every person has some secret and that every person has secrets which no one else shares. This she discussed and indicated its bearing. She also showed that every child has secrets which it shares with a few, and in connection with that it was shown that if the parents gave time to the children and shared their interests, they would, in consequence share such secrets as would enable them to tide over first temptations and failures.

The kindergarten meeting in the evening at Plymouth Church was one of the best of the session. In it was discussed the relation of the child-study movement to the kindergarten. Running through the discussions on the part of some there seemed to be a thought of this kind—that the kindergarten had not been living up to its high principles because it had been too much restricted to form, and had dealt too largely with cubes, and spheres and sticks, so that long after, in the grades, the drawing of the children from the kindergarten might be called wooden drawing. Otherwise expressed the idea was this—that the kindergarten teachers had mistaken in the present day the most important work before them in this sense: that Froebel, the founder of the kindergarten, had made an important and direct study of the children then and there around him in his own home, and that the kindergarten teachers, instead of doing the same and studying the children around them in Chicago, had studied what Froebel taught about those children that he studied then, and had been satisfied with that.

Another thought presented was, that the relation of the kindergarten and the child-study movement was essentially one of identity, and that the kindergarten was the originator of child-study, because Froebel has said something which ought to be at the heart of all true child-study: "Come, let us live," not *for*, but *with* our children." There are a great many parents that live for their children and are not acquainted with them. They labor in the mercantile houses and in the various places of business with the honest idea that they are living for their children. But they are not living with them. In that sense the kindergarten was the origin of the child-study movement. These papers in a few cases were not presented on account of the absence of members, but the grade of work was excellent. One felt that the speakers (Mrs. James Hughes, Mrs. Ellen Burke and Miss Vandewalker) were at home with the subject and possessed with a high devotion for the work.

On Friday three meetings occurred. The first was held in Schiller Theatre and related especially to the public school; the second was held in Kent Hall of the Chicago University, and dealt with the medical sciences and the contributions that they could make to the public schools, and the third, occurring in the Kindergarten College at 10 Van Buren St., had as its main topic the relation

of art to child-study. One cannot fail to see how varied were the interests. Sometimes the interest related to different classes and sometimes to different subjects. At this first meeting there was a paper given by Dr. William O. Krohn of the University of Illinois, on "Child-Study in the School." He brought out the point that all school work involved the training of the nervous system; that there are three functions in the nerves: the stirring up of energy, the discharge of energy, and inhibition. He said that the third was the great function of the school-room. By that he seemed to mean that it was the main business of the school to train the child so that he had possession of himself; so that he could be angry and yet control himself; so that he could have a longing to have something and bide his time. The thought advanced was that what is needed in this country is this training of inhibition, which would make Americans masters of themselves so that they would not fly off at every tangent that presents itself. In the conclusion of the discussion of this special point those present were recommended to read Kipling's last poem, "The American." Dr. Krohn also brought out the idea that precocity in children was very important and worthy of study. He thought that all experimental work on children in regard to the time required to recognize letters and words fully sustained the idea that it was a very illogical and time-wasting mode of work to begin reading with letters. A concrete whole was the thing to begin with. Dr. Colin A. Scott of the Chicago Normal School presented a valuable paper on "Morbidity in Childhood." He gave detailed accounts of several cases and gave excellent suggestions as to the mode of dealing with them. The last paper of the meeting in Schiller Theatre was one by Professor L. H. Galbreath of the Illinois State Normal University, Bloomington, and his subject was "Child-Study for Class Work." This was a paper that was a strong and helpful one because it set forth just the kind of work that could be done, not in the laboratory, but by any teacher in the ordinary school-room.

At Kent Hall in the afternoon occurred a meeting in which several physicians joined. It was said that it was a "Symposium on Expert Physical Examination of Children." Every one of the persons who spoke seemed to be eminently qualified for the work.

The first paper was "The Need of Examination and Supervision," by Miss Ida Mighell, principal Bryant School, Chicago. One thought in her paper was that a great deal of restlessness and bad behavior was due to physical defects of some kind. That was the main drift in her paper, and as an illustration she said that in the building that she had in charge there were about thirty-eight incorrigibles. These thirty-eight incorrigibles were given a medical examination and twenty-two out of the thirty-eight showed clearly that they required medical treatment, and that the difficulty rested right there. It was the thought of the paper that a great deal of bad behavior could be remedied if physical defects were recognized and treated.

The next paper was "The Examination from the Standpoint of Ear and Throat" by Dr. T. Melville Hardie, and the
but
certain diseases of

ages and thereby give a dullness to the hearing which makes the directions of the teacher and the recitations of the pupils indistinct. The child loses assignments and fails to hear the explanations of the teacher and hence falls behind. At last he is pronounced dull. Some arrangement should be made so that the child could be tested in regard to this.

The third paper was "Examination with Reference to Physical Culture," by Miss Kate Anderson, director of the Woman's Gymnasium in the University. The point to her paper was that physical culture ought not to be merely general. This was the thought: Every pupil should have a specific examination, and then the work in physical culture should be adapted to his physical need. She said sometimes one person would have one shoulder higher than the other, the right one or the left one; one hip higher than the other; and sometimes the muscles of one arm would be developed much less than those of the other. An examination would show this and the physical culture should be adapted to the need. She said that ninety per cent of the people had some defect, as one shoulder a little higher, or one arm a little more developed, etc.

Another paper during that meeting was "Some Aspects of Child Development" by Dr. W. S. Christopher. He said he would speak plainly because what he was speaking of was a critical period in the child's life,—that in which it just ceases to be a child; a period that might be spoken of as adolescence or pubescence. This was the thought in his paper; at this period the child should be allowed to be somewhat indolent and his studies should be lightened.

The final paper, "Supervision from the Standpoint of Contagious Diseases," by Dr. W. K. Jacques, was a technical paper showing the objection to all such things as these: having a box of pencils, collecting them at the end of the lesson, and distributing them the next day, not giving the same child the same pencil he had the first day. The pupil would have the end in his mouth, and the next day another pupil would have that end in his mouth, etc. In addition he explained the various other ways in which diseases could be communicated and offered valuable suggestions as to how to guard against these dangers.

The other meeting was held in the Chicago Kindergarten College and three papers were read: "Art and the Child," by Dr. George Herbert Mead, University of Chicago; "Children's Fears as Material for Expression and a Basis of Education in Art," by Dr. Colin A. Scott, and "Primary Art Education," by George L. Schreiber of the University Settlement. They all dwelt on the importance of making the education of the child symmetrical. It was no true art to have the child know a little of music and some work in literature, history, etc., and to neglect art, sculpture, music, poetry, etc. The recommendation was to have artistic productions in sculpture, painting, and other art productions around the child in his home and in the school, and never to put in the school room that which is inartistic. Another thought was that there should be systematic work on a few of the main productions in sculpture and painting and music, as well as in poetry. One other meeting occurred that night at Kent Hall. Two papers were presented at the meet-

ing, "The Child and His Environment," by Professor George H. Mead of the University of Chicago, and "Method in Child-Study" by Dr. S. F. MacLennan of the University of Chicago. The first paper had two thoughts in it. One of them was this: in studying arithmetic or in studying grammar or science, in any kind of work there are two main purposes. The first is the mechanical side of it and the second is the application. Professor Mead made this additional point: that in the application the child should have examples of real life from which to make his application. For a farmer's boy the application should run in the direction of corn and wheat and the process of their production. For a merchant's child the application should run in another direction.

Dr. MacLennan in his address on "Method in Child-Study" said that there are three kinds of child-study: one strictly scientific, which has no application to teaching; another is the kind of child-study that could be made in the laboratory on a great many children, or by obtaining specimens from a great many children and drawing from these general inferences which could be stated and brought out in a pamphlet; and the third is a study of what the child does in the school room.

Saturday there were two meetings. Dr. G. Stanley Hall spoke in the morning about one and a half hours and in the afternoon for about the same length of time. It was said that in the morning he would speak on "Pedagogical and Scientific Results of Child-Study: What May Thus Far be Called Established." He did not, however, speak on this subject. He spoke on that important period in the child's life, known as adolescence. In the afternoon he did not speak on "Problems, Prospects and Methods for Future Work and Organization," according to the program, but upon the subject that he was to speak upon in the morning. In the morning, speaking of the subject of adolescence he referred to its bearing on the course of study. During the period of adolescence, say from twelve to sixteen, the teacher should endeavor to rise to an intelligent recognition of the various changes that are going on, and of the ideals that the child has, so as to adapt the school work to his changing condition. In his discussion he brought out the point that then is the time that the child writes poetry, and then is the time that he chooses occupations of all kinds. The child is then going to be an artist; at that time he is going to be a foreign correspondent; possibly a writer, a miner or a stage driver. The period is one requiring very thoughtful treatment.

In the afternoon in speaking of the "Pedagogical and Scientific Results of Child-Study" he turned his attention to the modification they would make in the course of study; as, for example, child-study had shown clearly that drawing should always be taught before writing. It is to be hoped that the pamphlet of the Illinois Society for Child-Study, containing the proceedings of this Congress, will be obtained and studied by many.

[A very interesting account of the Second Child-Study Congress, held at Bloomington, May 5, 6 and 7, is unavoidably crowded out of this issue. It will appear in the July number.—Ed.]

EDUCATIONAL INFORMATION.

Professor J. B. Percy has been elected principal of the Anderson High School.

Professor Herbert Charles is the new principal of the high school at Cambridge City.

Miss Emma Leakey and Superintendent H. N. Coffman will return to Middletown the coming year.

Miss Mattie Allen, of Greencastle, has been promoted to the department of English in the high school.

The colored schools in Edinburg have been temporarily abandoned on account of shortage in the school funds.

Miss Nettie Needham, of the class of '97 State Normal School, will work in the Rensselaer schools the coming year.

The New Albany High School graduated the largest class of the season, there being thirty-nine members in the class.

County Superintendent J. E. Robinson of Morgan County, has been offered the Principalship of the schools at Martinsville.

Miss Laura Benedict, of the class of '97 State Normal School, will remain as Principal of the Springport schools another year.

Professor J. C. Black, of the Anderson normal university, is at the head of the science department in the Anderson High School.

J. B. Fagan, a graduate from the State Normal this year, has been elected Superintendent at Frankton, Indiana, for the coming year.

The Hartford City High School at its fifteenth annual commencement May 27th graduated a class of seven, five girls and two boys. Frank M. Beard is superintendent.

Superintendent T. F. Fitzgibbon of Elwood, who has spent the past year in Indiana University on a leave of absence, will return to his post with the new school year.

Richard Park, superintendent of the Sullivan county schools, contributed an interesting article on "Educational Factors" to a recent number of the *Educational News*.

There are quite a good many more boys graduating from the district and high schools of the state this year than formerly; many of the classes having more boys than girls.

Jesse W. Riddle is Superintendent at Corydon, Indiana, and at his recent commencement there were three graduates. We acknowledge the receipt of a handsome program.

Miss Olive Batman, for many years a successful teacher of history in the Anderson High School has been offered the department of history in the Bloomington High School.

Miss Nettie Northcott, of Vevay, Indiana, has been transferred from the principalship of the Hazelwood schools to the department of mathematics in the Anderson High School.

George E. Dee of Mulberry Grove, Illinois, has been elected superintendent of the schools at Red Key, Indiana. Superintendent W. A. Wert goes to DePauw University as an instructor.

State Superintendent Emery of Wisconsin, issued a very helpful pamphlet for those who wished to observe Memorial Day. It is full of suggestive thoughts for the observance of that day.

Professor Kelley, formerly Superintendent at Jeffersonville, has recently been elected Superintendent of the schools at that place to succeed Superintendent Stultz, who has resigned.

Superintendent Monroe and Messrs. Bauman and Butcher of Mt. Vernon, announce a summer school beginning June 7th. With such instructors as these the school should be well attended.

New York University announces summer courses in a number of subjects for teachers. The session will begin July 5th and end August 13, and will be held at University Heights, New York City.

Miss Abbie Gilbert, a graduate of Earlham College and the State University, also a student in the State Normal School, has been selected as one of the high school teachers in the Martinsville schools.

Professor C. H. Drybread, who has had charge of the science for several years in the Anderson High School, has resigned his position to make the race for the county superintendency in Madison County.

We have an announcement of the commencement exercises of the Marion Public Schools. The exercises took place June 1st. Superintendent Weaver gave the baccalaureate address on Sunday, May 30th.

The closing exercises of the Indiana Institute for the Education of the Blind took place May 31st and June 1st. There were class recitations, an exhibit of work done during the year, and a concert by the children.

At the first annual commencement of the Albany High School there were three graduates, two boys and one girl. Edwin F. Dyer, a graduate of the State Normal School, is superintendent, and Glen Pelham is principal.

State Superintendent Skinner of New York, has announced three summer institutes to be held under the direction of the State Department from July 12 to July 30, at Chautauqua, Thousand Island Park, and Glen Falls.

Superintendent W. P. Shannon of Greensburg, Indiana, can be obtained to do institute work in Nature Study this summer. We know of no man who is better qualified to do work in this direction and heartily endorse him.

County Superintendent J. A. Greenstreet of Henry County, visited the State Normal School May 27th and 28th, and conducted an examination for the Henry County teachers in attendance at the Normal, on Saturday.

Professor A. Jones of Marion Normal College, Ma- " a book this summer to be
c " Practical teachers
examining the

manuscript speak in the very highest terms of its value. The book is addressed especially to teachers and advanced students, and will no doubt meet with a large demand. It will be a work of about 350 pages.

There were thirteen graduates at the recent commencement at Warsaw, Indiana. The class held to the custom of delivering orations. Superintendent Henry has been here a number of years and has been very successful.

We acknowledge the receipt of a handsome invitation to the twenty-first annual commencement of the Anderson High School. The class numbers thirty-five, seventeen of whom are boys, unless we are mistaken in the names.

T. J. Scott, one of Vigo county's most progressive trustees, will organize a township high school for next year, and will fully equip it with all modern school appliances. The teachers have already been chosen and will be announced later.

A number of the members of the faculty of the Teacher's College, New York, announce a summer school of manual training. The courses are very elaborate. Charles A. Bennett should be addressed at Morning Side Heights, New York City.

The announcement of the eighteenth annual commencement of the Rockport High School is on our desk. The program is very attractive in design. The class numbers ten, and will be addressed by State Superintendent Geeting on the occasion.

Superintendent John F. Haines of Noblesville, Indiana, will conduct a normal beginning August 2. The prospects are good for a large attendance. Superintendent Haines gave a series of ten lectures on American History at Vories' Business College at Indianapolis recently.

The Southern Indiana Teachers' Association, which meets at Terre Haute in '98, will hold its session March 24-25-26. Southern Indiana teachers should set these dates apart now and make arrangements to attend the most successful meeting that they have ever attended.

A cordial invitation comes from the class of '97 of the Rockville High School. This class numbers eleven, two of whom are boys. Superintendent Thornton is just closing his first year at Rockville, and has been re-elected. Miss Georgetta Bowman is principal of the high school.

The Department of Public Instruction of Iowa issues a valuable circular of information on "The Mother and the School." Superintendent Sabin writes a suggestive introduction and the pamphlet contains articles upon different phases of the relation of the school and the mother.

Miss Anna Combs has been selected to do the English work in the Elwood High School the coming year. Miss Combs is a graduate of the Indiana State Normal School and has taken in addition some special work at Indiana University. She will spend the summer at the University of Chicago.

Purdue University Agricultural Experiment Station has demonstrated that Indiana is in the beet sugar producing belt. It hopes to add much data to the subject by the work of '97. The Station

will be glad to assist all persons in the state who may desire information in regard to the sugar beet question.

A biennial report of State Superintendent Emery of Wisconsin just received contains some very valuable material. The report of physical training in normal schools, with the pictures showing the advancement that has been made, is especially interesting as illustrating what may be done in this direction.

The University of Chicago has sent out its announcement for the summer quarter of 1897. A large number of courses are offered, giving teachers the full advantages of university work during their vacation. Among the great things that the University of Chicago is accomplishing, this is by no means the least.

Superintendent Morgenthaler and Principal Foreman of the Rockport schools, announce the opening of the Spencer County Normal School and Pedagogical Institute, for May 31. In addition to these instructors County Superintendent Nourse and A. C. Huff will have charge of psychology and mathematics respectively.

Mr. Lee O. Harris, one of Hancock's oldest and best teachers, has received the nomination for the County Superintendency of that County. He will be elected June 7th. This is certainly a fitting recognition of the services of one of Indiana's best men. Mr. Harris is not only a good school man, but a man of high literary attainments.

Superintendent Kerlin, of the Martinsville schools, announces the twenty-second annual commencement of the high school for June 4. There are eight graduates. The members of the class have prepared papers upon live topics, but at the commencement the address will be made by President Parsons on "The School and the State."

Clark University announces a summer school of psychology, biology, pedagogy and anthropology. The courses in these subjects will be given by President Hall, Clifton H. Hodge, Edmund C. Sanford, William H. Burnham, Alexander F. Chamberlain, Adolph Meyer and Colin C. Stewart. The session will extend from July 19 to the 31.

The friends of Fred M. Chamberlain, of the class of '95, Indiana State Normal, will be glad to know that he has been promoted to the position of Assistant Naturalist on the Fish Commission steamer Albatross. He joined the Albatross at Seattle and will spend the summer studying the habits of the salmon in southeastern Alaska. The position is a good one.

A May Day entertainment has grown to be a custom in the New Albany schools. Our readers will remember that Superintendent Hershman gave a very successful entertainment last year and netted a handsome sum for the purchase of books. This year the children gave the cantata "Dreams of Fairyland," and the entertainment netted nearly \$500.

In DeKalb county there are twenty-eight high school graduates and one hundred and sixty common school graduates. The dates of the commencements are in May and June. Superintendent Merica has been in charge of these schools for fourteen years. He has certainly been very suc-

cessful in his work and has always shown a progressive spirit.

The Elwood High School held its commencement May 20th, with six graduates, three boys and three girls. Daniel Freeman has been acting as superintendent of these schools during the year while Superintendent Fitzgibbon has been doing work in the State University. L. D. Owens, Claude D. Lee, and Miss Bodemer, all of the State Normal, make up the high school corps.

At the first annual commencement of the Noble county common schools there were sixty-nine graduates. The exercises were held June 2nd. In the forenoon State Superintendent D. M. Geeting made an address, and in the afternoon the program was in the nature of field-day exercises, a number of contests having been announced. The prizes were gold and silver medals.

The *Sunday School Times* published in Philadelphia, is doing some good service to teachers by publishing a series of articles written by the most prominent living educators. These articles are taking up the lives and work of the most prominent educators of former years. Among these writers are Joshua Fitch, Nicholas Murray Butler, John Eaton, Charles H. Thurber and H. Court-hope Bowen.

Crawfordsville is to have a new superintendent next year in the person of G. F. Kenaston of Mankato, Minnesota. Mr. Kenaston had been at Mankato for five years and was re-elected. He has been in the school work all his life and had charge of the Attica and Noblesville schools in Indiana previous to his going to Minnesota. Indiana teachers will welcome him back and we wish him success in his new work.

The fourth annual session of the Decatur Summer Normal is announced to open at Greensburg May 31. The instructors are Superintendent Shannon and principals Roberts, Powner and Bobbitt. The school certainly offers good facilities in the way of instruction and should be well attended. We notice that one of the courses offered is in Nature Study. Superintendent Shannon is a specialist in this direction.

Superintendent W. H. Hershman has been elected for the fourth time at New Albany, Indiana. Mr. Hershman has been doing a great work for the New Albany schools and he is very much liked by his people, as he deserves to be. The New Albany schools have taken on new life under his administration, and the impression is abroad among the teachers of the state that New Albany is a good place to go to teach school.

Professor Robert J. Aley, who has a leave of absence from Indiana University this year, will receive the degree of Ph. D. from the University of Pennsylvania. His thesis was upon the subject, "Some Contributions to the Geometry of the Triangle." Professor Aley will return to Bloomington and if he has not his time full will be able to do some very helpful institute work during the coming summer. He will be in Bloomington after June 9.

A neat and attractive program announces the third annual commencement of the township graded schools of Jennings county. Superinten-

dent J. H. McGuire organized the township graded school work in this county in '93. Since then there have been twenty-two graduates in a three years' course, and eighty-seven pupils are now enrolled in the first and second year's work. Six of the eleven townships have graded schools and two more will likely be provided for this year.

The Frankfort High School is abreast of the procession with its graduating exercises this year. The class numbers thirty-one, with twelve boys in the list. Professor John M. Coulter, of the University of Chicago, made the address. With Superintendent Moore and a high school faculty consisting of David R. Major, Alice Hadley, John J. Mitchell, Emma L. Butler, George C. Ashman, Anna M. Claybaugh, and Effie C. Hessin in their respective departments the Frankfort High School is certainly well equipped.

Superintendent H. S. Gilhams of Lima, held his commencement exercises the first week in May. A children's May-Day operetta was given very successfully under the direction of Miss Bertha Thomas. On another evening the exercises proper were held. The members of the class were represented in the exercises and the diplomas were presented by Superintendent Gilhams in a neat address. Lima township has the distinction of having the only commissioned township high school in Indiana.

The Madison High School held its forty-third annual commencement May 28. There were twenty-three graduates, eight of whom were boys. Judging from the accounts of the meetings and from *The Apothegm* which the high school publishes annually, Madison must have a real live high school. *The Apothegm* this year is a very creditable publication indeed. In fact, it is elegant. The taste displayed in the make-up of the annual is excellent in every way. Superintendent C. M. Daniel, to whom the annual is dedicated, certainly has the love of his pupils.

Superintendent W. S. Almond, of Delphi, has been elected for the fifth year. This is proof that he is succeeding. He has a Mother's Club, and from the following, which recently appeared in the Delphi paper, he is looking after the best interests of school work:

Every mother who is interested in the success of the Delphi public schools is cordially invited to visit any or all of the rooms on Thursday afternoon, April 22, which will be known as "Mother's Day." Teachers are ready to welcome all parents and to co-operate heartily with them in the realization of the ideal school. Will you come, and by so doing encourage both teachers and pupils to more earnest and faithful efforts? Mothers, do you not really owe this much to your children?

Superintendent Miller of Howard county has collected the following data relative to his teaching force during the present year:

Number of college or university graduates	12
Number of normal school graduates	14
Number of high school graduates	33
Number of teachers who have had one or more full years of work in college or normal school	62
Total numbers of teachers employed	160

He says that at present by actual count there are seventy-six teachers and young people who are attending the various educational institutions to better qualify themselves for the great work of teaching. This is certainly a good showing.

We have received from the revised courses of st

School. The pamphlet contains a cut of their elegant new high school building and an elaborate description of the courses. The courses sustained cover a wide range of work and are very complete. The work is so arranged that the teachers are enabled to expend their energies upon their own special subjects. There are fourteen regular instructors in the high school besides Principal Robert Spear. In addition to these there are five special instructors in music, German, penmanship, drawing and physical culture.

The teachers of the South Bend city schools have been elected for next year. Of course, Superintendent Moon has been retained. John M. Culver has been elected principal of the high school and given the department of history. The other teachers in the high school are, Dumont Lotz, science; Mrs. Essie Bissell Dakin, mathematics; Katharine Campbell, Latin; Lillian Brownfield, English; Thecla Sack, German; C. O. Davis, mathematics and history; Ada Campbell, science. The special teachers are Eva Hill, drawing; Cora A. May, penmanship; Sarah L. Kirby, music; Hedwig Engell, German in the grades. John A. Byers holds his former position. In the teacher's training school Mrs. Bessie Ridgley is principal.

John A. Wood, for many years principal of the Frankfort High School, has been in the State University during the year doing advanced work. Mr. Wood has had large experience in every grade of work in the public schools, and is a graduate of the Indiana State Normal School. He is one of the best equipped men in the state and the school that secures his services will be fortunate. Mrs. Wood has also been at Bloomington this year taking advanced work in the University.

Since the above was put in type we have learned that Mr. Wood has accepted the principalship of the LaPorte High School. Mr. and Mrs. Wood graduate from the University this year; they were both members of the class of '89 State Normal. We congratulate LaPorte.

Professor Barton W. Evermann, formerly of the Indiana State Normal, has recently had an interesting experience in Georgia, Louisiana and Texas, where he went to make investigations regarding the fishes of those regions. The principal inquiry was a study of the commercial catfishes of Louisiana, particularly in the Atchafalaya river. He made a trip of one hundred and eighty miles in a tugboat through this river and its connecting lakes and bayous. During the entire trip he saw very few houses on dry land; nearly all were either standing in the water or were house-boats. The entire region was pretty well flooded. During the season of high water the catfish fishing is done out in the woods. He says the lines are tied to limbs of the cypress trees and the hooks allowed to hang about eighteen inches under the water. The trees are "blazed" to enable the fishermen to locate their lines.

The fourth annual meeting of the Association of English Teachers of the North Central States will be held at the University of Chicago, July 2nd and 3rd. These meetings have proven of the very greatest value in the past, and the advance announcement of the program of the coming meeting promises some discussions of unusual interest. The chairman of the executive committee is C. W.

French, Hyde Park High School, Chicago, Ill. The program is as follows:

FRIDAY, 9:30 A. M.

Discussion of the following Resolution:—
Resolved:—That in Rhetoric it is better to begin with the larger rather than the smaller elements, e. g., with whole compositions rather than with sentence elements.
Appointment of Committees.

FRIDAY, 2:00 P. M.

Report of the Conference Committee on College Requirements and discussion of the same.

FRIDAY, 8:00 P. M.

Address:—The Psychology of Literature Teaching. Dr. John Dewey, University of Chicago.

SATURDAY, 9:30 A. M.

Discussion of the following Resolution:—
Resolved, That the study of literature in secondary schools should be intensive rather than extensive; and that it should be pursued by the chronological method.
Miscellaneous business.

For two seasons the American Book Company has conducted a School of Methods in Public School Music in Chicago during the month of July. These sessions have been very successful in every way. They furnish a delightful opportunity of combining a pleasure trip and holiday with valuable training. The third session of the New School of Methods in Public School Music is announced for July 12-28, 1897. The faculty includes Mr. Fred. H. Ripley and Mr. Thomas Tapper, the authors of the Natural Music course; Mr. Wm. L. Tomlin of Chicago; Mrs. Emma A. Thomas of Detroit, Mich.; Miss Nannie C. Love of Muncie, Ind. In addition to the music, the school offers courses in Physical Culture, by Mrs. Louise Preece of Minneapolis, Minn.; in Penmanship by Mr. C. C. Curtiss of Minneapolis, Minn.; and in Drawing by Miss Bonnie Snow, also of Minneapolis. The session will be held in Chicago at the rooms of the Oakland Club, which is delightfully situated on the South Side. Full particulars can be obtained from the American Book Company, 521-531 Wabash Ave., Chicago.

The Kindergarten Summer School of Columbus, Ohio, under the direction of Mrs. Lydia Coon Brown and Miss Harriette M. Mills, will hold a summer session from June 14 to June 26. In their announcement they say:

"This school is intended to meet the needs of Kindergartners and all teachers who wish to study Kindergarten principles and methods as applied to other grades of teaching.

The management is fortunate in being able to introduce to the people of Columbus and Central Ohio, Prof. Denton J. Snider, of Chicago. Mr. Snider is recognized as the most eminent living exponent of the Kindergarten Philosophy, besides being the author of Commentaries on Homer, Dante, Shakespeare and Goethe. He has also within the last year, issued a deeply philosophical treatise on "Psychology and the Psychosis."

Ten lectures each on "Child Study," "Educational Psychology" and "Great Literature and Art" will be given by Professor Snider; Mrs. Brown gives ten lessons each on "Froebel's Gifts" and "Mutter and Koseleider;" Miss Mills gives ten lessons on "Occupation" and conducts the Round Table Conferences. The work in Music will be given by Miss Elsie A. Merriman. This school offers a great opportunity for kindergartners and others interested in these lines of study.

From April twenty-first to the twenty-third the

city of St. Louis, Mo., was the Mecca toward which all the western drawing teachers and supervisors turned for aid and inspiration. The occasion was the fourth annual meeting of the Western Drawing Teachers' Association, which has taken deeper root, spread out wider branches and made a firmer stand in the educational world than ever before in its history. The international Kindergarten Union held its second annual meeting in the same place, April twentieth to twenty-second and this enabled many who wanted to attend both conventions to do so without extra expense. There has always been a strong bond of fellowship between these two bodies of educators and this arrangement helped to bind them more strongly together. A joint meeting was held on the evening of April twenty-first, at which Mr. Patterson DuBois, of Philadelphia, and Mr. James L. Hughes, of Toronto, Canada, gave able addresses. On Thursday evening, April twenty-second, the citizens of St. Louis gave a reception to the delegates in the parlors of the Southern Hotel. On all sides the delegates were met with cordial hospitality and all the arrangements were most delightful. The meetings were held in the auditorium of the new High School building, corner of Grand avenue and School street. The program, with few exceptions, was carried out as planned. Perhaps no papers were more enjoyable and instructive than those of Mr. Hughes and Mrs. Lucy Fitch Perkins. Much to the delight of the audience, this latter paper was accompanied by sketches on manilla paper made by Mrs. Perkins while the people watched her. The exhibit reminded one of the educational department in the Liberal Arts building at the World's Fair. It was arranged in the corridors on three floors of the spacious building and covered 23,000 square feet. As about sixty-five places sent work, it was the largest and finest exhibit of the kind ever held in the United States. Detroit was chosen as the place for the 11th annual meeting. Mrs. M. E. Riley of St. Louis was elected President, Mr. Geo. L. Schreiber of Chicago, Vice-President, and Miss Lizzie Hughes of Whitewater, Wis., Secretary and Treasurer. The papers and discussions are being printed in the annual report which may be obtained by sending fifty cents to the retiring Secretary, Miss Frances E. Ranson, East Saginaw, Mich.

Charles E. Keim, a graduate of '92 in the State Normal School, died in Sturgis, Mich., May 3, 1897. Deceased was reared on a farm near Brighton, and his common school education obtained in Lima (Ind.) High School. After graduating there he taught in the common schools of Lagrange county several terms. At the age of 22 years he entered the Indiana State Normal, finishing there in '92. After graduation he superintended the Newport schools for three years. During the last year of his work there his health began to fail and he sank rapidly. Every means known to medical science was employed to restore his health, but without avail. He was a good teacher, and the profession has lost one of its most honorable members.

We are sorry to announce the recent death of Mr. J. W. Guiney. Mr. Guiney's home was in Owen county, where he was county superintendent for a number of years. At the close of his term

of office two years ago he taught school in Owen county and then moved to Terre Haute to complete his work in the State Normal. Before he had gotten far into his senior year his friends were shocked to see him stricken down with consumption. He went to the far West to seek a climate that might improve him, but finding that he was deriving no benefit from his stay away from home and friends, he came back to Indiana to die. Mr. Guiney was regarded as a good school-teacher and an excellent man. He was engaged as one of our special agents last summer and did excellent work for THE INLAND EDUCATOR. He will be much missed by his many friends at home and over the state.

BOOK REVIEWS.

AN ILLUSTRATED FLORA OF THE NORTHERN UNITED STATES, CANADA AND THE BRITISH POSSESSIONS; from Newfoundland to the Parallel of the southern Boundary of Virginia, and from the Atlantic Ocean westward to the 102d Meridian. By Nathaniel Lord Britton, Ph. D., Emeritus Professor of Botany in Columbia University, and Director-in-Chief of the New York Botanical Garden, and Hon. Addison Brown, President of the Torrey Botanical Club. In 3 Volumes. Vol. I., XII+612 pages. New York: Charles Scribner's Sons. Price \$3.00.

This is the first volume of the first complete Illustrated Flora ever published on American Botany. Beginning with the *Pteridophyta* (the Ferns and Fern-allies) the book proceeds through the Conifers, all of the families of Monocotyledons, and the first nineteen families of Dicotyledons, ending with the *Aizaceae* or Carpet-Weed Family.

The order and sequence of families are based upon the principle, expressing the almost unanimous scientific judgment of the present time, that the order of nature is an order of evolution and development from the more simple to the more complex. The more simple forms, those of a more generalized type, are treated first, following which come the more and more specialized forms. This is in accordance with the practice of zoologists for the last decade, and it is gratifying to see the botanists adopting the same principle. But this is only one of many innovations which will be noticed by those who are familiar with Gray's Manual. The Code of Nomenclature adopted by the Botanical Club of the A. A. A. S. at the Rochester and Madison meetings has caused a good many changes in generic and specific names, so that those who know Gray's 6th edition well will find many names to learn over; e. g., *Hicoria* for *Carya* in all the species of Hicory, *Gyrostachys* for *Spiranthes*; and we do not at once recognize our old friend *Aplectrum hiemale* in *Aplectrum spicatum*. But stability in nomenclature can be maintained only through strict adherence to the law of priority, and the first names applied to plants must be used.

The manner of writing trinomials without the "var." between the specific and subspecific names and the omission of the comma between the scientific name and the authority for it are two other improvements, long followed by most vertebrate zoologists. In matters such as these it is to be regretted that the initial capital letter is retained in writing any specific or varietal names. Practically all zoologists and many botanists now follow the principle of writing all specific and sub-

specific names with a small initial letter, and it is not unlikely that this will soon become the practice of the large body of botanists.

But the great value of this magnificent work lies in the fact that *every species* is illustrated, the illustrations being all from drawings made expressly for this work. These, together with a series of excellent keys and the very carefully written descriptions, will make it very easy for the student to identify the plants he finds. It is certain that Britton and Brown's *Illustrated Flora* will at once take its place as the standard work on American Systematic Botany, and every student of botany will want to possess a copy. Those teachers who are not botanists but who take pleasure in studying and identifying the plants about them will find this the most helpful book obtainable.

B. W. EVERMANN.

AMERICAN AND BRITISH AUTHORS. Frank V. Irish, Columbus, Ohio. Published by the author. Cloth. 344 pages. Price \$1.35.

It is noteworthy that text-books in America which treat of English Literature have usually relegated that portion that belongs to America to an appendix; or, at best, to a few closing pages, and have designated the two parts as English and American—just as if American literature were not English literature.

If Mr. Irish has not quite reversed this process he has at least presented our own authors first; he has given them rather more than half of his book, and, like Mr. Brander Matthews, he distinguishes the two branches of English Literature as American and British. This is right.

In addition to appreciative discussions by the author there are well executed wood-cuts of leading American authors and of their homes; there are copious and choice selections from their works, opinions and estimates by acknowledged critics, and generous references. At the close of the portion devoted to American authors we find biographical notes of over 300 authors, including many of the present time. This feature makes a convenient reference, and also emphasizes the impression that America is fast building up a literature worthy of the name. Here and there throughout the volume are footnotes, consisting of literary gems culled from such authors as Lowell, Newman, Holmes, Swing, Stedman, and Everett.

The treatment of British authors begins with Tennyson and runs back to Chaucer, the general handling being the same as that of American writers. We can hardly explain the omission of the Morleys from a list of nineteenth century British authors, including, as it does, many names not nearly so well known.

The work of compiling is well done, and a tolerably complete index makes the large quantity of material available.

W. W. S.

TEACHERS are wanted to solicit subscriptions for an old and well-known literary magazine.

Large commissions are given, and teachers looking for pleasant and remunerative employment during the holidays, or at special gatherings of educators, will do well to write for further information to

"EDUCATOR,"
P. O. Box 5206, Boston, Mass.

BOOKS RECEIVED.

AMERICAN BOOK CO.: New York, Cincinnati and Chicago. *Carpenter's Geographical Reader, Asia.* Frank G. Carpenter. With colored maps and numerous half-tone illustrations. (Cloth. 12 mo., 304 pages. Price sixty cents.) *Stories of Missouri.* John R. Musick, author of the *Columbian Historical Novels*. Profusely illustrated. (Cloth. 12 mo., 286 pages. Price eighty cents.)

A Brief Latin Grammar. W. D. Mooney, A. M., Bartle Ground Academy, Franklin, Tennessee. (Cloth. 12 mo., 272 pages. Price seventy-five cents.)

Bible Readings for Schools. Edited by Nathan Schaeffer, Ph. D., D. D., Superintendent of Public Instruction of Pennsylvania. (Linen. 12 mo., 217 pages. Price thirty-five cents.)

GINN & COMPANY: Boston, New York and Chicago. *Vertical Round Hand Writing Books.* H. W. Shaylor. Nos. 1-7.

THE WOOD-ALLEN PUBLISHING CO.: Ann Arbor, Mich. *Almost a Woman.* Mary Wood-Allen, M. D. Author of *Almost a Man.* Paper. Price twenty-five cents.

C. W. BARDNES: Syracuse, New York. *A Short History of Education.* A reprint of Oscar Brownling's article on Education in the ninth edition of the *Encyclopedia Britannica*. Edited by W. H. Payne, L. L. D. (Cloth. 98 pages. Price fifty cents.)

How Children's Eyes Should Be Tested.

The means to be provided must be accessible to the masses, easy of application, considerate of popular prejudice, and effective of results. Such a plan has been suggested and put in practice by the writer. It consists in the training of school principals in the detection of eye disorders and in a system of notification to the parents of discovered defects carrying with it the suggestion that a competent authority should be consulted.

In the city of Minneapolis, with the earnest cooperation of Professor C. M. Jordan, Superintendent of the public schools in that city, the eyes of 23,049 school children have been satisfactorily examined by the principals, after due instruction by the Superintending Oculist. Among this number, 7,236 defectives have been found and largely beneficial results have already followed.

The method is, briefly, as follows: An oculist is to be appointed by the Board of Education, whose duty it shall be to lecture to the principals upon the elementary facts in ocular anatomy, physiology, and hygiene, and upon the uses and application of the test types, etc., making a practical demonstration of the method upon some fifty pupils.

The principals shall thereafter annually report their work to the Superintending Oculist, who shall submit such statements with his conclusions, to the Board of Education. A Snellen test card is provided for every building, with some accompanying printed matter.

They involve but slight expense, which should not exceed seventy-five dollars in a city of two hundred thousand people.—From "Defective Eyesight in American Children," by Dr. FRANK ALLPORT, in June *Review of Reviews*.

At least three papers in the *Atlantic Monthly* for June are of the most timely interest. Benjamin Ide Wheeler, recently resident in Athens, discusses "The Old Struggle Between the East and the West" under the subject "Greece and Turkey." Irving Babbitt of Harvard University, writes of the celebrated French critic and editor, and explains the striking principles of criticism that M. Brunetiere recently announced in his American lectures. "The Municipal Problem" and "Greater New York," treated by Albert Shaw, becomes of national interest both because of the attention that municipal governments generally are receiving, and because the charter of Greater New York as lately signed by Governor Black makes our metropolis the second city of the world in population.

INDIANA STATE BOARD QUESTIONS FOR
MAY, WITH DISCUSSIONS.

SPECIAL NOTICE.

For the six examinations, beginning with May, 1897, the questions in "General Culture" will be based on Guizot's History of Civilization, covering one of the Township Institute Outlines (1896-97) at each examination, beginning with the first.

For the same examinations the questions in *reading* will be based on Tompkins' "Literary Interpretations," covering one of the Institute Outlines at each examination, beginning with the first.

The questions in the "Science of Education" for these examinations will not be based on any particular text.

WRITING AND SPELLING.

The penmanship shown in the manuscripts of the entire examination will be graded on a scale of 100, with reference to *legibility* (50), *regularity of form* (30), and *neatness* (20). The handwriting of each applicant will be considered in itself, rather than with reference to the standard models.

The orthography of the entire examination will be graded on a scale of 100, and 1 will be deducted for each word incorrectly written.

GEOGRAPHY.

(Answers 8 and 9 and any other five.)

1. How does the Atlantic coast of the United States compare with the Pacific coast in (a) curvature, (b) elevation, (c) indentation?
2. Locate and describe Cuba: (a) position, (b) size, (c) surface, (d) products, (e) inhabitants, (f) government. Show how a study of this island can be made profitable work for the third grade.
3. What country receives most of the agricultural exports of the United States? Why is this so?
4. How are river deltas formed. Name three river deltas.
5. What are the dykes of Holland? What historical prominence do they have?
6. To what race do the native inhabitants of India belong? To what country are they subject? What is the prevailing religion, and what its doctrines?
7. What rivers drain the lake region of Africa? Which one is of the greatest historical importance, and in what respect does it especially differ from other rivers?
8. What should be the aim of the first three years in geography? Give reasons.
9. What should be the aim of the fourth, fifth and sixth years? Give reasons.

To place the above set of questions before a teacher to be answered in one hour may give an impression of the exalted requirements and attainments of Indiana teachers, but seems likely to place an undue strain upon the superintendents who must examine and grade the papers while making due allowance for the largeness of the demands in proportion to the smallness of the time allotted to meet them. Teachers, of course, should be able to answer all of them without the use of reference books, but to do themselves and the questions justice in two hours would require a facility and speed of composition usually found only in the journalistic profession.

1. The Atlantic coast presents three concavities; Nova Scotia to Cape Cod, Cape Cod to Cape Hatteras, Cape Hatteras to Cape Florida. The Pacific coast has one convex curve; the Atlantic coast is low south of New York; north of that point it is somewhat higher. The whole Pacific coast is high and abrupt. The Atlantic coast has many indentations, which, south of Chesapeake Bay, are shal-

low sounds and lagoons; north of that point deep, drowned valleys and flords. The Pacific coast has few indentations.

2. Cuba lies between the Caribbean Sea on the south, and the Gulf of Mexico and Bahama channel on the north. It is 780 miles long, twenty-five to 130 miles wide, and its area is 43,220 square miles. It is traversed lengthwise by a mountain chain which rises to over 7,000 feet. The lowlands are meadows, swamps and lagoons. Its products are copper, gold, silver, iron, lumber, maize, rice, yams, bananas, sugar, coffee, tobacco, cotton, tropical fruits and cattle. The population consists of about one million Spaniards and half a million negroes. It is governed as a Spanish province. Cuba sends representatives to the Spanish cortes, and in the various provinces and municipalities legislative assemblies are elected by the people, but the executive and judicial officers are appointed by the Spanish crown, and the Captain-General has the power to overrule all laws and decisions.

A study of Cuba may be made profitable for the third grade, but no more so than that of any other region, and much less so than a study of the home environment. The general relations of its position, relief, climate, products and inhabitants might be taught in the third grade, but it would be much better to postpone such study several years.

3. Great Britain. Because of accessibility, and the fact that the British consume a great deal more than they can produce. Great Britain is also the great grain market of the world.

4. By the deposit of sediment due to the checking of the current at the mouth of a river. Mississippi, Ganges, Brahma-pootra, Nile, Niger, Lena, etc.

5. Embankments constructed to protect the land from the sea. They make Holland habitable, and the commercial and political importance of the country has been dependent on them for centuries.

6. See INLAND EDUCATOR for April, p. 157, and for May, p. 208. They are subject to Great Britain.

7. Nile, Congo, Zambesi. The Nile flows through a desert, and is subject to regular, annual floods.

8. By field and object lessons, and a study of the home region, to give the child a foundation in *his own experience* upon which to construct a knowledge of things and regions he cannot see. Whenever this is omitted, his subsequent attainments must necessarily be mostly words without ideas. The story is told of a geography class in Boston which could define promptly the words *bay* and *peninsula*, but had never seen either; yet they were

living upon a remarkable peninsula, and the windows of the school-room looked out upon one of the finest bays in the world.

9. To give the child a rational knowledge of the Earth as a whole and the relations in space of its various parts and elements; as, relief, climate, products and population.

PHYSIOLOGY.

(Any eight.)

1. How are the bones adapted to withstand severe strains?
2. Show the relation of nerves to both voluntary and involuntary muscles.
3. What artificial means may be employed to assist digestion?
4. What is the function of the liver?
5. Describe the structure of an artery and indicate where in it differs from a vein.
6. Indicate the parts of the brain which are the seats of voluntary and involuntary action, respectively.
7. Explain the relation of the kidneys to the blood.
8. Describe the structure of a tooth.
9. Give some suggestions as to the care of the ears.
10. How would you illustrate the process of osmosis, or the passage of substances in solution into the blood through the membranous walls of the cell?

2. In the voluntary muscles, each muscle fibre is supplied with a nerve, which, piercing the sarcolemma of the muscle fibre about its middle, ends in an expanded nucleated structure called a muscle plate.

In the involuntary muscle cells, a tiny fibril runs to each cell and after making one or more turns around the cell, the nerve pierces the muscle cell and ends pointedly in or near the nucleus.

3. Artificially prepared pepsin, in some form or other, is the most usual remedy to assist digestion. In other instances, food more or less artificially digested before being given as food, is used to assist the digestive action of the stomach.

4. The functions of the liver are several:

- (a) To secrete bile.
- (b) To act as a storehouse for the excess sugars, which it stores as glycogen, and doles out between meals as the blood requires it.
- (c) To burn up the waste material carried to it by the blood from the tissues, into *urea*, which is then sent to the kidneys to be eliminated.
- (d) To burn up the *excess* of albumen in the food taken.
- (e) To destroy worn-out red blood corpuscles.

5. An artery on cross-section shows an inner epithelial layer, next to this an elastic fenestrated membrane appearing as a bright line in section, next to this a thick, well-developed muscular coat (involuntary muscles), and on the outside a thick coat of connective tissue fibres.

A vein exhibits these same coats, but the elastic membrane, the muscular coat, and the connective tissue coat are less developed and shade more or less gradually into each other.

6. In a general way the cerebrum is the seat of

voluntary actions, the cerebellum and medulla, the seat of involuntary activities.

7. The kidneys are bundles of tubular glands, which are supplied, each, by a large artery from the aorta, and which return the blood by corresponding veins to the vena cava. In passing through, the blood is relieved mainly of the nitrogenous *urea*, to remove which, there is added a large amount of water.

8. A typical tooth consists of a crown, a neck and one or more fangs. The crown is covered with a hard layer of prismatic structures, forming together the enamel. Under the enamel and forming the bulk of the tooth is the dentine, a kind of bone, but devoid of Haversian canals and lacunae. In the dentine is the pulp cavity, containing blood vessels, nerves and connective tissue. Holding the fang in its socket is the cement,

10. A simple way to illustrate the process of osmosis is to secure an ordinary hen's egg, which shows at its broad end the usual air space. If now the outer shell of this space be removed, and then, on the egg proper a few pieces of the shell removed, leaving the shell membrane intact, the egg, will, when placed about half its height in water, begin to distend the shell membrane owing to the osmosis going on, until the shell membrane is so stretched that the air space is filled out, and this may continue until the membrane is stretched beyond what it was in the fresh egg, and until it finally bursts. The process of osmosis is through the shell membrane, much water going into the egg, and comparatively little albumen and salts going out.

READING.

1. What is meant by the nature of literature? 10%.
2. Make it clear that the nature of literature, or reading, determines how to teach it. 10%.
3. What is meant by the theme of a discourse? What are the marks of a literary theme? 10%.
4. What is meant by the form in a literary selection? How does it differ from the theme? 10%.
5. Make clear the distinction between prose, or didactic discourse and poetry, or literary discourse. 10%.
6. Read a selection chosen by the County Superintendent. 50%.

1. By the nature of anything is meant its essential qualities. By the nature of literature then would be meant those essentials without which it would not be literature; such as, universality of appeal, beauty of expression, etc.

2. It is self-evident. The purpose in teaching any subject is to reproduce in the consciousness of the pupil the essence of the subject. Thus the essence, or nature, of literature is the determining element in the problem of teaching it.

3. "The thought, or idea, or conception, in which the interest of the composition lies; its binding vitalizing element; that to which everything else in the work directly or indirectly contributes."

In general it may be said that literary themes are *universal* in their significance, *ideal* in their outlook upon life, and *emotional* in their method of appeal to the reader.

4. By form in literature is meant all that is used as means in the expression of the theme. It differs from theme somewhat as body from soul.

5. Didactic discourse makes its main appeal to the thinking powers of man, literary discourse makes its main appeal to the feelings. Literary discourse is never limited by "merely practical purposes." It should be added, however, that no hard and fast distinction easy of discernment can be established.

GRAMMAR.

1. So intent were the servants upon their sports that we had to ring repeatedly before we could make ourselves heard.

a. Point out the principal elements of the thought expressed by the sentence. Give reasons.

b. Point out the principal parts of the sentence. Give reasons.

2. Write sentences containing three kinds of subordinate clauses. Point out and name the clauses.

3. What is an expletive or form word? What is its use in the sentence? Illustrate.

4. Write a sentence containing a noun in the first person, one in the second person, and one in the third person. Show how you distinguish.

5. How do you distinguish in use between *shall* and *will*? Illustrate in sentences.

6. Punctuate and capitalize: i pity the man who can travel from dan to beersheba and say it is all barren and so it is and so is all the world to him who will not cultivate the fruit it offers.

1. The thought-subject is the idea, *the servants*, because it is the idea about which something is affirmed. The thought predicate is the idea, *so intent upon their sports that we had to ring repeatedly before we could make ourselves heard*, because it is the idea which is affirmed of the thought-subject. The thought relation is one of agreement, because the thought predicate belongs to the thought-subject. The subject of the sentence is the words "the servants," because they express the thought subject. The predicate of the sentence is the words, "So intent upon their sports that we had to ring repeatedly before we could make ourselves heard" because they express the thought predicate. The copula of the sentence is the word, "were" because it expresses the thought relation.

2. Substantive clause; e. g., we believe that the earth is round. Adjective clause; e. g., Lincoln, who was martyred, was a good president. Adverbial clause; e. g., They live where the water falls.

3. An expletive is a word which does not express an idea but which changes the arrangement of the sentence, or in some way improves its form. It makes the sentence less abrupt, or more easily pronounced, or smoother; e. g., *There* is a pleasure in the pathless woods.

4. A noun in the first person; e. g., I, William McKinley, President of the United States, hereunto fix my seal. Noun in the second person; e. g., I

hope, James, that you will always remember that character is more precious than gold. Noun in the third person; e. g., The great statesman is dead. We can see from the context, or meaning, that the noun, "William McKinley," in the first sentence, expresses the object of thought which is speaking; that the noun, "James," in the second sentence, expresses the object of thought spoken to; and that the noun, "statesman," in the third sentence, expresses the object of thought spoken of.

5. In general we may say that the auxiliary, *shall*, in the first person, denotes simple futurity; e. g., I *shall* go. In the second and third persons, it expresses futurity accompanied by determination on the part of the speaker; e. g., You *shall* go, he *shall* go. The auxiliary, "will", in the first person, denotes futurity accompanied by determination on the part of the speaker; e. g., I *will* go. In the second and third persons, it expresses simple futurity; e. g., you *will* go, he *will* go. This is a general statement and is the basis of the distinction in use between *shall* and *will*. There are some other differences in the uses of the two words. See "A New English Grammar," Wisely, page 141.

6. I pity the man who can travel from Dan to Beersheba and say it is all barren; and so it is; and so is all the world to him who will not cultivate the fruit it offers.

HISTORY.

1. What and how many were the great compromises with slavery?

2. Give your estimate of James Madison. What is your source of information?

3. What have been the causes and effects of fertility of invention in agricultural machinery in the United States?

4. What are the evidences of progress and a general uplift in education in Indiana within your own experience?

5. State the arguments by which the Southern people justified slavery.

1. There have been at least four great compromises in United States history with slavery:

a. That of 1787, in the Constitutional Convention held at Philadelphia, by which the South was given representation for three-fifths of her negro slaves; the South, likewise, was guaranteed in the National constitution the return of all fugitive slaves. On the other hand, the general government was given power to stop the foreign slave trade after the year 1808.

b. The compromise of 1820, by which slavery was excluded from all of the Louisiana Territory lying north of the latitude of 36 and a half degrees north, and although nothing was said about slavery South of this line within the Louisiana purchase, it was tacitly understood that slavery would be permitted therein.

- c. The compromise of 1850, by which California was permitted to enter the United States with a free constitution. New Mexico and Nevada were organized as territories and permitted to have slavery in them if they chose; the slave trade was abolished in the District of Columbia, and the Fugitive slave law was further strengthened so as to make more certain the return of fugitive slaves to their Southern owners.
- d. The Kansas-Nebraska legislation, by which slavery was permitted to enter into the territories of Kansas and Nebraska if the people chose so to have it.

2. James Madison was one of the greatest of American statesmen. He took a very prominent part in the formation of the Constitution itself, and almost constantly, from the time of its formation down to the close of the first quarter of the nineteenth century, was one of the greatest powers in shaping, interpreting, and administering the United States constitution. He was a safe, conservative, judicious statesman. Good estimates of his character are given in Schouler's *History of the United States*, Von Holst's *History of the United States*, McMaster's *History of the People of the United States*, and the Life of Madison in the "Statesmen Series."

- 3. a. A great general cause for the fertility of invention in agricultural machinery in the United States is, that the American people belong to an inventive race—the Anglo-Saxon.
- b. Very strong special causes are; the general intelligence of the American people, largely brought about by their common school system; the large extent of agricultural territory available in our country, and the stimulation to invention which this vast extent furnished.

The effects of this invention have been many, some of the chief of which are, a very rapid settlement and development of the West; a consequent extension of railroads to the West; a decrease in the price of agricultural products, and a general cheapening of food.

- 4. Some of the chief evidences of progress in Indiana's education are:
 - a. A much larger proportion of experienced school-men and school officers who administer our schools.
 - b. A much larger proportion of well educated and specially trained teachers.
 - c. A much larger proportion of children attending the schools who are of school age.

- d. Better facilities, both for comfort and for instruction of pupils.
- e. The recent law of the legislature making education in Indiana compulsory.
- 5. Some of the chief arguments by which the Southern people justified slavery were:
 - a. That it was, in the early history of America, a local institution, and therefore the National government had no right to abolish it.
 - b. That the South as well as the North contributed to the purchase of the Western territory, and therefore it was unjust to exclude slavery from this domain.
 - c. It was argued that it was a great benefit to the negro to bring him from Africa where he enjoyed none of the fruits of civilization and place him in bondage where he would be surrounded by civilization.

GUIZOT'S HISTORY OF CIVILIZATION.

(Any five.)

1. What is the meaning of civilization? Make a summary of the tests of civilization.
2. Distinguish between civilization in general and any special civilization.
3. Summarize the distinctions between European civilization and the civilization of the ancient world.
4. Why could the City Republic conquer the world better than she could rule it?
5. Name the chief bequests of Rome to civilization.
6. Discuss the services of the early church and civilization.
7. Mention some of the contributions of the Germans to civilization.

Lectures I and II.

1. Civilization means progress; that is, it means that from age to age there is a continual development, upon the whole, of mankind. In order to test any civilization it should be measured with respect to the general advancement of both society and the individual. If morals are becoming more rational and more generally diffused, if intelligence is becoming more general, if religion is becoming more reasonable, if the comforts of life are becoming greater and more distributed to all of the people, then, in this case, civilization would be tending in a healthy and normal direction.

2. Civilization in general, means the civilization of the whole human race without any special regard to any particular time, or place, or circumstance. Civilization in particular, means the rise, growth and tendencies of any particular part of the human race; as that of Greece, England, or the United States.

3. The great distinction between European civilization and the civilization of the ancient world is, that in the former there was a great diversity of ideas mutually stimulating, struggling with, and developing society, while in the latter a single idea dominated, moulded and ruled society. The result of this was that ancient civilization finally became stagnant and died, while modern civilization, thus far, remains in a condition of progress.

4. The City Republic could conquer the world, because as she went forth, conquering city after city, she seized the wealth of what she conquered, and enlisted into her army a large proportion of the conquered people; but having conquered all of the cities around the Mediterranean Sea she was unable to organize this life into her own little city life at Rome. Rome never developed the idea of representative government, and hence her conquered territory never became organically united into one great, vital, central government.

5. The chief bequests of Rome to civilization were:

- The idea of Roman law and municipal government.
- The idea of imperial power.
- The organization and development of the Christian church.
- The Latin language.

6. The early church was the greatest agency for the unification and governing of the ancient world after the fall of Rome; it was the vehicle by which all of the civilization which had grown up around the Mediterranean Sea was carried to the barbarians of Northern Europe. It greatly assisted towards softening the barbarian roughness, and crudeness of manners which prevailed in the early ages.

7. Some of the important things contributed by the Germans to civilization were:

- A strong love of personal independence and the individual worth of man.
- A high regard for the dignity and inherent worth of woman.
- Intense love of local self-government.
- Ideas of representative government.

ARITHMETIC.

- Find the sum of $\frac{13}{34}$ and $\frac{5}{34}$.
- $\frac{2}{3}$ of 126 is $\frac{3}{4}$ of what number? Give analysis.
- Reduce .35 mile to integers of lower denominations.
- What per cent of $12\frac{1}{2}$ is $8\frac{1}{2}$?
- A man sold a cow for \$30 and lost $16\frac{2}{3}\%$. He then sold another cow at a gain of $16\frac{2}{3}\%$, and thereby made as much as he lost by the sale of the first cow. What was the selling price of the second cow?
- What is the interest of \$137 for 3 years, 1 month and 16 days at 5%?
- How many feet, board measure, in 8 planks 4 inches thick, 18 feet long and 16 inches wide?
- Given a bin 3 feet high, 4 feet wide and 5 feet long, how many bushels of wheat will it contain?
- How many metres in 4 km., 8 dm., 2 m., 5 dm., 8 cm.?
- Discuss the arithmetic work in the State Manual and Course of Study. How does it meet our present needs?

$$1. \frac{1\frac{1}{2}}{3\frac{1}{2}} = \frac{\frac{3}{2}}{\frac{7}{2}} = \frac{3}{7} \times \frac{1}{1} = \frac{3}{7}. \quad \frac{\frac{3}{7}}{3\frac{1}{2}} = \frac{\frac{3}{7}}{\frac{7}{2}} = \frac{3}{7} \times \frac{2}{7} = \frac{6}{49}.$$

$$\frac{6}{49} + \frac{1}{7} = \frac{6}{49} + \frac{7}{49} = \frac{13}{49}. \quad \therefore \frac{1\frac{1}{2}}{3\frac{1}{2}} + \frac{\frac{3}{7}}{3\frac{1}{2}} = \frac{13}{49}.$$

2. $\frac{1}{3}$ of 126 = 42, $\frac{1}{5}$ = 7 times 42 = 98. If 98 is $\frac{2}{3}$ of some number, $\frac{1}{3}$ = $\frac{1}{2}$ of 98 or 32 $\frac{1}{2}$. $\frac{1}{3}$ of the number = 4 times 32 $\frac{1}{2}$ = 130. $\therefore \frac{1}{3}$ of 126 is $\frac{2}{3}$ of 130.

$$3. .35 \text{ mi} = 112 \text{ rds.}$$

$$4. 8\frac{1}{2} \div 12\frac{1}{2} = .66\frac{2}{3}. \therefore 8\frac{1}{2} \text{ is } 66\frac{2}{3}\% \text{ of } 12\frac{1}{2}.$$

5. If a man sold a cow for \$30 and lost $16\frac{2}{3}\%$, \$30 = $83\frac{1}{3}\%$ of the cost or \$36 = cost, \therefore he lost \$36 - \$30 or \$6. If on the second cow he gained as much as he lost on the first cow he gained \$6, but he gained $16\frac{2}{3}\%$. $\therefore 16\frac{2}{3}\%$ of the cost of the second cow = \$6. \therefore the cost of the second cow = \$37 $\frac{1}{2}$, but he sold her and gained \$6, therefore the selling price = \$37 $\frac{1}{2}$ + \$6 = \$43 $\frac{1}{2}$. \therefore He sold second cow for \$43 $\frac{1}{2}$.

6. The interest on \$137 for 1 year at 5% = \$6.85.
The interest on \$137 for 3 year at 5% = \$20.55.
The interest on \$137 for 1 month at 5% = \$0.57 $\frac{1}{2}$.
The interest on \$137 for 16 days at 5% = \$0.30 $\frac{1}{2}$.
The interest on \$137 for 3 years, 1 month and 16 days at 5% = \$21.42 $\frac{3}{4}$ = \$21.43.

7. In one board there are $(18 \times \frac{1}{2} \times 4)$ feet, or 96 feet.

In eight boards there are $(8 \times 96 \text{ feet})$ 768 feet.

8. The contents of the box is 60 cubic feet $(3 \times 4 \times 5)$.

There are 2,150.42 cubic inches in a bushel.

There are 1,728 cubic inches in a cubic foot.

\therefore There are $\frac{1728}{2150.42}$ bushels in a cubic foot.

\therefore There are $60 \times \frac{1728}{2150.42}$ or 48.2 = number bushels in box.

$$9. 4 \text{ K. M.}, 3 \text{ D. M.}, 2 \text{ M.} = 4032 \text{ M.}$$

$$5 \text{ d. m.}, 3 \text{ c. m.} = .53 \text{ M.}$$

$$\therefore 4 \text{ K. M.}, 3 \text{ D. M.}, 2 \text{ M.}, 5 \text{ d. m.}, 3 \text{ c. m.} = 4032.53 \text{ M.}$$

SCIENCE OF EDUCATION.

(Any seven.)

- What are the principal reasons for and against compulsory education?
- In what ways should the school endeavor to educate the moral nature of the child?
- For what reasons should the public school refrain from teaching sectarianism and theology?
- Why should the school do what it can to promote the physical development of the child?
- How is rational memory different from verbal memory?
- What common school studies are well fitted to train the rational powers?
- What is the value of supplementary reading in the grades?
- Name some of the excellences and some of the defects of Indiana's school system.

1. The principal reasons for compulsory education are: First, the very nature of the child demands for him an education that he may become what he was intended to become. Second, he can realize his destiny only by close, systematic application. Third, the state, which is the people, established the school that through the school it might perpetuate itself. This perpetuity demands the enlightenment of all the people. If the state makes provision for the education of her children they should all partake of it.

The chief reason against compulsory education is that the education of the child should be left in

the hands of the parent, and that the state has no right to take this right from the parent. The argument of largest value is, that if the state would do everything in its power to increase the efficiency of the schools there would be no need of compulsory laws.

2. By directing his impulses; by seeing that he builds up a healthy system of desires; by making his judgment unerring. Full rounded volitional life, a self-determined being, must be developed out of raw impulse.

3. Because the public schools have every shade of belief represented, and hence should be non-sectarian.

4. Because the body is the tabernacle in which the soul dwells; the soul is closely dependent upon the body for the material with which it works. A healthy, nervous system is an absolute necessity for healthy, spiritual growth.

5. Rational memory is internal and involves thinking; verbal memory is external and mechanical.

6. All of them. Perhaps history and arithmetic are considered as more especially fitted to train the reasoning powers, but geography and grammar are surely to be placed in the list of inductive studies.

7. It furnishes new, fresh material for the pupil to work upon. It gives the pupil more views than one, of the point he may be working upon. It gives the teacher an opportunity to get individual work from the pupils. It keeps the school out of ruts.

8. Indiana has a well organized system so far as officers and departments are concerned. It provides for officers with well-defined duties; it has uniform examinations, and uniform text-books which are considered good features on the machine side. As defects, it fails to provide for any qualifications for any school officers in the system; while having uniform examinations it does not make the license valid in all parts of the state; while providing for uniform text-books it fails to get the best text-books available; the length of term of school is left to the political caprice of the trustee.

KENTUCKY STATE UNIFORM QUESTIONS, WITH DISCUSSIONS.

GEOGRAPHY.

1. What determines the location of the circles which bound the North Temperate Zone? What is the width of the zone? What change of the earth's axis would make it ten degrees narrower?

2. Locate Albert Nyanza, New South Wales, Teheran, Honolulu, Berlin, Annapolis, Pike's Peak.

3. What are equinoxes? How many and what are they called?

4. Describe fully the Gulf Stream, giving its effect on climate, navigation, etc.

5. Mention some of the most prominent mistakes made in

presenting this subject, and state how, at what age, and for what purpose you would teach it.

6. Describe the action of a volcano, a geyser, an earthquake, an artesian well.

7. Name the largest, the smallest, the most populous and the most sparsely settled State in the Union. Give two cities of each.

8. What government has possessions in every continent in the world? Mention the most important of these possessions.

9. A vessel sails from San Francisco to Peking, from Peking to Bombay and from there to Liverpool, changing cargo at each landing. Over what waters does it sail and what is taken on board at each port?

1. The tropic of Cancer is determined by the northern limit of the sun's perpendicular rays. The arctic circle is determined by the northern limit of the sun's rays at the time of the winter solstice. Forty-three degrees. An increase of five degrees in the inclination of the earth's axis to the plane of the ecliptic.

2. Albert Nyanza, one of the sources of the Nile is south-east of Central Africa. New South Wales is the south-eastern province of Australia. Teheran is in northern Persia. Honolulu is the chief sea-port of the Sandwich Islands. Berlin, the capital, is in Central Germany. Annapolis is in Central Maryland, on the Chesapeake. Pike's Peak is in Central Colorado.

3. Equinox is the period of equal day and night. Two, the vernal equinox and the autumnal equinox.

4. The Gulf Stream flows out of the Gulf of Mexico through Florida Straits, follows the coast to Cape Hatteras, crosses the Atlantic to the Azores, British Isles and Norway and enters the Arctic Ocean. It greatly moderates the climate of western Europe and increases the speed of vessels moving in its direction.

5. The fundamental and most common mistake is to teach geography wholly from a text-book. A second and equally serious mistake is to teach it as a set of facts to be memorized. The study of geography should begin in the first grade with field and object lessons upon the natural forms in the vicinity. A text-book should not be used earlier than the fourth year, and the study of home geography should continue until the pupils are familiar with the natural and human features of the territory accessible to them. There is no use in extending home geography to cover more territory than the pupils can actually observe for themselves. When that has been thoroughly studied, they have a foundation upon which to build from books a knowledge of regions unseen. In all stages geography should be *rational*; should discuss not only facts, but their causes and relations. The purpose of geographic study is to gain a knowledge of the relations of relief, climate and life.

6. A volcano is an opening in the earth's crust emitting lava, steam and gases. A geyser is a spring from which jets of hot water and steam are

forced into the air at intervals more or less regular. The chief cause of volcanoes and geysers is believed to be the formation of steam and gases deep in the earth's crust.

An earthquake is a trembling or vibration of the earth's surface, due to shrinkage or to volcanic action. An artesian well is the upward flowing of water from a hole bored through rock strata beneath which is a vein of water with pressure from some higher point.

7. Texas; Galveston and Austin. Rhode Island; Providence and Newport. New York; New York and Buffalo. Nevada; Carson City, Virginia City.

8. The British Empire. The British Isles, British America, Australia, British India, Cape Colony.

9. Pacific Ocean and Yellow Sea, carrying wheat and lumber. Yellow Sea, East and South China Seas, Strait of Malacca, Indian Ocean and Arabian Sea, carrying dates and tobacco. Arabian Sea, Red Sea, Suez Canal, Mediterranean Sea, Strait of Gibraltar, Atlantic Ocean, St. George's Channel, and Irish Sea, carrying rice, and tea.

COMPOSITION.

1. Define rhetoric, concord, parable, autobiography, satire.
2. What figure of speech in each of the following sentences:

States, as great engines, move slowly.
He wears the rose of youth upon him.
Beauty calls, and Glory shows the way.
This dish is well cooked.
Fools admire, but men of sense approve.

3. Paraphrase:

The curfew tolls the knell of parting day,
The lowing herd winds slowly o'er the lea,
The plowman homeward plods his weary way,
And leaves the world to darkness and to me.

4. Punctuate the following: Houses and lands offices and honors gold and lords are nothing to the man at Death's door.

5. What is meant by unity in composition? Harmony? Strength?

6. Write a letter to a friend.

7. Write an article of news to a daily paper. The article to be graded on the following points: Punctuation, capitalization, spelling and thought expressed.

8. Write a composition on "The Benefits of an Education."

1. Rhetoric is that language study which has for its unit or subject-matter discourse, and emphasizes the appropriate expression of thought in language.

Concord is that principle of discourse which has to do with the agreement of one word with another, as in gender, number, person, etc., and the unity of the sentence, harmony of tenses, etc.

A parable is a short story or representation of something real in life or nature, from which a moral is drawn for the purpose of instruction.

An autobiography is an account of one's life written by one's self.

A satire is a composition usually poetical in form, holding up the vices or follies of a people or individuals to reprobation. It may be a prose production giving a keen or severe criticism of that which in public or private morals deserves rebuke.

2. The figures of speech illustrated are in their order as follows: Simile, metaphor, personification, metonymy, antithesis.

3. The shadows of the evening are falling and the curfew tolls. O'er the fields the lowing herd may be seen going slowly home, the weary plowman returns from his work, and I am left alone with the world and darkness.

4. Houses and lands, offices and honors, gold and lords, are nothing to the man at death's door.

5. Unity is that principle of discourse which requires that one central or predominating idea shall pervade or control the entire selection.

Harmony is that principle of discourse which has to do with the sounds of words as the expressions of thought.

Strength is that vigor or force of style by means of which we are able to express thought powerfully in language.

6. See any good language book or text in composition.

7. See any of the little news items in this journal.

HISTORY.

1. Do you favor the annexation of Canada to the United States? Give reasons for your position.

2. Name three direct and three indirect causes that brought about the Great Civil War.

3. Give an account of the siege and surrender of Vicksburg.

4. What other great event was transpiring when Vicksburg surrendered? Describe its influence upon the future of the Southern Confederacy.

5. When was Jamestown, Virginia, settled? Describe the character of the people that constituted this settlement.

6. What was the commercial problem in the time of Columbus?

7. State the causes that led to the French and Indian War. Why so called?

8. How do you or would you interest your school in the study of current history?

9. What do you understand by the Monroe Doctrine? State fully the part it recently played looking to the settlement of the boundary between Venezuela and British Guiana.

1. No. England is not willing. If she were willing such extension of territory is out of harmony with our policy. It is doubtful whether or not Canadians would readily conform to our republican institutions. So large a territory as the United States and Canada is likely to become unwieldy.

2. The Kansas-Nebraska bill, John Brown's raid, secession.

The Mexican War, the question of State Sovereignty, the Fugitive Slave Law.

3. Vicksburg, held by the Confederate forces under Pemberton, was invested by the Federal armies May 19, 1863. After a severe bombardment of three days the attack became a siege. The outworks were gained by the Federals, and at the end of forty-seven days, on July 4, Vicksburg surrendered with fifteen generals and over 30,000 troops.

4. The Confederate surrender at Gettysburg. It convinced the Confederate leaders that invasion of

the North was hopeless, and doubtless assured them that ultimate success was impossible. On the other hand the struggle became more intense.

5. In 1607. They were unaccustomed to work, improvident and idle, and when hard times came on they became quarrelsome.

6. How to establish trade with the Orient.

7. It was a conflict for territory. English colonies pushing westward from the Atlantic met the French settlements moving down the Ohio Valley. The French had won many of the Indians through their missionaries, and hence, found it easy to enlist them as allies. Thus it was England's war with the French and Indians.

8. Chiefly by getting pupils to read and bring in items of current news. Devote a short period each day, on every other day, to this work. An excellent plan is to have a bulletin board where items of extraordinary interest and pictures may be pinned up.

9. The Monroe Doctrine declares that America belongs to Americans and that the United States would regard as an unfriendly act any attempt on the part of a European nation to acquire territory in America.

Venezuela claimed that England was moving her boundary of British Guiana over upon Venezuelan territory. The United States regarded this to be in violation of the Monroe Doctrine and by insisting, brought about an agreement that the disputed question be submitted to arbitration.

READING.

1. What is correct reading?
2. What special preparation should be made by the teacher for the reading lesson?
3. Show the relation in the teaching of reading between a knowledge of things and a knowledge of words.
4. State your method of teaching beginners to read?
5. To what extent in teaching reading should prominence be given to elocution?

6. Read: She was a phantom of delight
When first she gleamed upon my sight;
A lovely apparition, sent
To be a moment's ornament,
Her eyes as stars of twilight fair;
Like twilight, too, her dusky hair;
But all things else about her drawn
From May-time and the cheerful dawn;
A dancing shape, an image gay,
To haunt, to startle and waylay.

—Wordsworth.

7. I solemnly declare, that, but for the love of knowledge, I should consider the life of the meanest hedger and ditcher preferable to that of the greatest and richest man in existence; for the fire of our minds is like the fire which the Persians burn in the mountains—it flames night and day and is immortal, and not to be quenched. Upon something it must act and feed—upon the pure spirit of knowledge, or upon the foul dregs of polluting passions.—Sidney Smith.

1. As generally used the term includes two ideas; the full comprehension of the meaning expressed, and the correct oral rendering of the author's language to express this meaning.

2. In general, the same that should be made for any lesson; he should have clearly in mind the ends to be reached and the means to be used in reaching them.

3. Words are the symbols of ideas. They are worth nothing except as they stand for meaning. The word "cat" calls to mind all the meaning the object mentioned has for us. It follows that the greater our knowledge of the cat the greater will be the content of the word "cat."

4. Probably a judicious combination of the so-called word, sentence and alphabetic methods will give the best results.

5. To the extent that children should be able to give reasonably intelligent oral expression to what they read. Special difficulties in the way of enunciation, pronunciation, etc., must be overcome by special drills.

CIVIL GOVERNMENT.

1. Name four prominent men that assisted in framing the United States Constitution.
2. Name five duties of the Governor of Kentucky that are mentioned in the Constitution of Kentucky. What is the term of office? What his salary?
3. Give the methods of electing congressmen and United States senators. How many of each in the present congress? How many of each has Kentucky?
4. Who is Speaker of the present House of representatives? Why is the office of Speaker such an important one?
5. Beginning with the primary election or caucus, enumerate the several steps in the nomination, election, and inauguration of president.
6. Name the different kinds of courts in Kentucky. Name the county officers in Kentucky, elected by the people.
7. What is meant by "Right of Eminent Domain"?
8. In a criminal trial explain the terms "preliminary trial," "bind over," "bail," "subpoena," and "impaneling a jury." What court would try a murder case?
9. Name the duties of the County Superintendent and the board of trustees of each district.

1. Hamilton, Madison, Washington, Jay.

2. Five duties of the Governor:

- (a) "He shall be commander-in-chief of the army and navy of this Commonwealth, and of the militia thereof * * *"
- (b) "He may, on extraordinary occasions, convene the General Assembly * * *"
- (c) "He shall take care that the laws be faithfully executed."
- (d) "He shall have the power to fill vacancies * * *"
- (e) "He shall have the power to remit fines and forfeitures, commute sentences, grant reprieves and pardons * * *"

The Governor's term of office is four years; his salary is \$6,500.

3. Congressmen are chosen by the votes of the people, one from each congressional district. United States senators are chosen by the state legislatures, two from each state.

In the present Congress there are 357 representatives and ninety senators.

Kentucky sends thirteen representatives and two senators.

4. Thos. B. Reed, of Maine. The Speaker practically controls legislation through the appointment of committees, and the recognition of speakers in debate.

5. The city or precinct primaries select delegates to the county conventions, which in turn, send representatives to the state convention. At the state convention the state committee presents nominations of delegates from congressional districts for the national convention, and it is the custom that these nominations be accepted. At the national convention candidates are put in nomination for the presidency and vice-presidency. Then the state convention nominates presidential electors, two at large, and one from each congressional district, so that the whole number of electors equals the whole number of senators and representatives. The people, in November, vote for the electors so nominated, and the electors chosen meet at the state capital and cast their votes for president and vice-president. Lists of the votes so cast are sent to the Speaker of the House, and to the judge of the court of the district in which the electors meet. Strangely enough, there is no provision for an official announcement of this vote to the president elect, but he finds it out, and presents himself on March 4, for inauguration.

6. The different courts of Kentucky are,—Senate, as a court of impeachment, courts of appeal, circuit courts, quarterly courts, county courts, justice's courts, police courts and fiscal courts.

The county officers are,—county judge, county clerk, circuit clerk, county attorney, sheriff, jailer, coroner, surveyor, assessor and superintendent of schools.

7. It is the dominion of the sovereign power over all property within the state, by virtue of which any portion of it may be appropriated for public use by making reasonable compensation.

8. A preliminary trial is held by a justice to determine whether the evidence justifies holding a man for trial until the grand jury can decide upon the case.

To bind over is to require the defendant to give bond to await the action of the grand jury.

Bail is security given that grants release of a prisoner from custody and guarantees his appearance in court at a specified time.

A subpoena is a writ commanding a person to appear in court as a witness, juror, etc.

To impanel a jury is to enroll and summon the body of men who are to hear the evidence and render verdicts in the cases tried during a term of court.

A murder case is tried by a circuit court.

9. Duties of county Superintendent are;

- (a) To lay off the county into school districts, to alter them, to condemn school-houses and furnishings, and to order others provided.

- (b) To visit and inspect schools, and to counsel trustees and teachers.
- (c) To appoint two persons, who, with himself, shall constitute the County Board of Examiners, and adopt text-books; to hold the county institute, and to maintain the County Teachers' Association.
- (d) To act as the disbursing officer of the school fund, and to make reports to the State Superintendent.

Duties of district trustees are:

- (a) To keep records. (Chairman's duty.)
- (b) To secure site and locate school-house.
- (c) To levy tax to provide school accommodations and furnishings, when property is condemned by the County Superintendent.
- (d) To appoint District Treasurer,
- (e) To employ and remove teacher.
- (f) To visit parents.
- (g) To visit school once a month.
- (h) To suspend pupils.
- (i) To take school census in April.
- (j) To make annual report to the County Superintendent.

GRAMMAR.

1. What is language? Into what parts of speech is the English language divided?
2. Indicate briefly the character of the instruction in language which can profitably be given a child during each of "the five grades" of school life, as provided for our rural districts?
3. Write possessive plural form of the following: Father-in-law, basis, lady, money, chief, sheaf.
4. What is a figure of syntax? Name and define five of the most important.
5. Write the synopsis of the verb *learn*.
6. What is the difference between analysis and synthesis? When does a preposition become an adverb? Give two examples.
7. Write a sentence containing a participial phrase, a prepositional phrase, an apposition phrase.
8. Explain and illustrate in full the various ways in which participles may be used. Infinitive verbs.
9. Analyze or diagram:
He who, from zone to zone,
Guides through the boundless sky thy certain flight
In the long way that I must tread alone,
Will lead my steps aright.
10. Parse these words:
Howe'er it be it seems to me
'Tis only noble to be good.

1. Language is that system of printed and oral symbols by which we express thought. The parts of speech are as follows: noun, pronoun, adjective, adverb, verb, preposition, conjunction, interjection. The participle and infinitive are sometimes classed as separate parts of speech, but it is better to consider them forms of the verb used as other parts of speech.

2. Children in the grades may profitably take the following kinds of instruction in language:

- a. Correction of oral and written errors.
- b. Copying sentences and selections.
- c. Reproduction of stories.

- d. The writing of sentences and short stories about common objects.
- e. A line of composition work beginning with the second and extending through the grades, including the learning of principles of capitalization, punctuation, paragraphing, etc., in a simple way.

In the early part of the course the work will be largely oral but as soon as the child learns to write he should be required to write frequently, and his work should be carefully corrected by the teacher.

3. Fathers-in-law's, bases', ladies', moneys' or monies', chiefs', sheaves'. In words which express inanimate objects of thought the possessive is more properly indicated by the preposition "of;" e. g., The bands of the sheaves, not The sheaves' bands.

4. A figure of Syntax is any intentional deviation from the ordinary form of sentence construction. Five of the most important are:

- (1) Ellipsis, or the omission of words which are clearly understood from the sentence; e. g., My father made the journey but did not arrive in time.
- (2) Syncope, or the elision of one or more letters or a syllable from the middle of a word; e. g., *ne'er* for never.
- (3) Pleonasm, or the use of more words than are necessary to express the thought for the sake of emphasis; e. g., Gad, a troop shall overtake him.
- (4) Metathesis, or the transposition of letters or sounds for the sake of euphony, or ease of pronunciation; e. g., *wasp* (waeps), *third* (thrida), *meagre* for meager.
- (5) Syneresis, or the coalescence of two vowels or syllables; e. g., *e'er* for ever.

5. To give the synopsis of the verb *learn* one would give all the forms of the verb in all the voices, modes, tenses in the singular person and number. In order to save space we refer the reader to any good text in grammar.

6. The analysis of a sentence is the separation of it into its organic parts showing the use of each word.

Synthesis is the construction of sentences from words.

Words which usually express the relation between ideas of an unequal rank may sometimes express an attribute of an attribute, or of a relation, in which case they are adverbs; e. g., In the sentence, "Beneath the rude and nameless stone he lies," the word "beneath" is a preposition because it expresses relation between ideas of un-

equal rank; but in the sentence, "It cannot be found in the earth beneath, nor in the heavens above," "beneath" and "above" are adverbs because they express attributes of attributes. In the sentence, "He lives above the bridge," the word "above" is a preposition because it expresses relation between ideas of unequal rank.

7. A participial phrase; e. g., "The boy *standing by the door* is my brother."

A prepositional phrase; e. g., "He lives *in the country*."

An apposition phrase; e. g., the injunction "To do unto others as you would have others do unto you, should be obeyed."

8. Participles may be used: (1) As a noun; e. g., "*Walking rapidly* is good exercise." (2) As an adjective; e. g., "The apple *hanging on the tree* is ripe." (3) As an adverb; e. g., "The horse came *trotting down the road*." (4) As a relation word; e. g., "My father *being* comfortable, I enjoyed myself."

The infinitive may be used: (1) As a noun; e. g., "*To forgive* is to be charitable." (2) As an adjective; e. g., "The book *to be brought* is a large one." (3) As an adverb; e. g., "We eat *to live*." (4) As a relation word; e. g., "We wish him *to be* a teacher."

9. It is a complex declarative sentence. Subject is the words "He who, from zone to zone, Guides through the boundless sky thy certain flight;" the predicate of the sentence is the words, "Will lead my steps aright in the long way that I must tread alone." The copula is implied in the verb, "will lead." The principal part of the subject, "he," is modified by the subordinate adjective clause "who, from zone to zone, guides through the boundless sky thy certain flight." The principal part of the predicate, "will lead" is modified by the words, "my steps" a direct objective modifier, the word, "aright" an adverbial modifier, and the expression, "In the long way that I must tread alone" an adverbial modifier. The word, "way" the principal part of the prepositional phrase is modified by the subordinate adjective clause, "that I must tread alone."

10. The word "how'er" is an adverb and modifies the word, "be" expressing an adverbial idea of manner. The word, "it" is a pronoun, subject of the verb "be." The word, "be" is a pure verb used as the copula of a clause. The word, "it" is used as the subject of the verb "seems." The word, "to" is a preposition and shows the relation between an indirect object and an attribute. The word, "me" is a pronoun used as an indirect objective modifier. The word, "it" is a pronoun used as the subject of the verb "is." The word, "is" is a pure verb used as the copula of the

clause. The word, "only" is an adverb and modifies the adjective "noble." The word, "noble" is an adjective used as the principal part of the predicate of the clause. The word "to be" is an infinitive used with the adjective "good" as an appositive modifier of the word, "it."

ARITHMETIC.

1. Multiply 48.4867 by .2 5-87 and divide the product by 8.092 41-86.
2. What part of 8 A. 2 R. is 1 R. 11.52 P.?
3. In a school-room 82 feet long, 18 feet 9 inches wide, 12 feet 6 inches high, there are 60 pupils, each breathing $10\frac{1}{2}$ cubic feet of air per minute. How long will they be in consuming the air in the room?
4. Define and illustrate the different kinds of discount.
5. A buys R. R. stock at 20% below par and sells at 15% above par; what ratio of gain?
6. A and B are partners. A's capital is to B's as 5 to 8; at the end of 4 months A withdraws $\frac{1}{4}$ his capital and B $\frac{1}{4}$ of his; at the end of the year their whole gain is \$400.00. How much does each get?
7. It is 160 rods between the opposite corners of a square farm. How many acres in the farm?
8. Bought R. R. Stock at 97 $\frac{1}{2}$; sold at 102 $\frac{1}{2}$; invested the proceeds in electric light stock at 102 $\frac{1}{2}$, and sold it at a discount of 2% on my second investment. What rate was made on second investment?
9. Find a sum of money whose true discount for 2 years is \$15.00 more at 6% than at 4% per annum.
10. If I sell two houses at \$200.00 each and gain 20 per cent. on one and lose 20 per cent. on the other, do I gain or lose and how much?

$$1. \quad 48.4867 \times 2.5 = 10.34189.$$

$$3.06241 = 3 \frac{6241}{1000} = 3 \frac{5373}{86000} = \frac{263373}{86000}$$

$$10.34189 \times \frac{86000}{263373} = 3.37 \frac{183553}{263373} = 3 \frac{9928354}{26337300}$$

$$2. \quad 3 \text{ A. } 2 \text{ R.} = 560 \text{ P.}$$

$$1 \text{ R. } 11.52 \text{ P.} = 51.52 \text{ P. which is } \frac{51.52}{560} \text{ or } \frac{5152}{56000}$$

$$\text{or } \frac{2576}{28000} \text{ of } 560 \text{ P.}$$

$$3. \text{ The number of minutes would be}$$

$$\frac{32 \times 18.75 \times 12.5}{10.5 \times 60} = \frac{25}{2.1} = 11 \frac{19}{21}$$

4. Trade discount is an allowance made upon the price of an article or upon a bill of goods, and is estimated at a certain rate per cent. A bill of \$125 at 10% off would mean a discount of \$12.50.

Bank discount is simple interest paid in advance to a bank.

A man having his note of \$100 for one year discounted at 8% by a bank would receive \$92, while the bank would retain \$8 as its interest or discount.

True discount is the difference between the amount of a debt due at some future time and its present worth.

The present worth of \$216 due in one year at 8% is \$200, and the true discount is \$16.

5. The price at 20% below par would be 80, and at 15% above par would be 115.

The gain would be $115 - 80 = 35$, and the rate is

$$\frac{35}{80} = 43\frac{1}{2}\%.$$

$$6. \text{ A has 5 units 4 months} = 20 \text{ for 1 month.} \\ \text{A has } 2\frac{1}{2} \text{ units 8 months} = 20 \text{ for 1 month.}$$

$$40$$

$$\text{B has 8 units 4 months} = 32 \text{ for 1 month.}$$

$$\text{B has } \frac{8}{3} \text{ units 8 months} = 21\frac{1}{3} \text{ for 1 month.}$$

$$53\frac{1}{3}$$

Then 40 and $53\frac{1}{3}$, or 120 and 160 represent their respective interests.

$$\text{A is entitled to } \frac{120}{280} \text{ of } \$400 = \$171.43 \text{ and B to } \frac{160}{280} \text{ of } \$400 = \$228.57.$$

$$7. \text{ The square of this diagonal is twice the area of the farm. } \frac{160}{2} + 2 = 12800 \text{ P.} = 80 \text{ acres.}$$

8. Selling railroad stock at 102 $\frac{1}{2}$ and buying electric light stock at same price involves neither gain nor loss. 2% of 102 $\frac{1}{2}$ = $2\frac{1}{8}$. $102\frac{1}{2} - 2\frac{1}{8} = 100\frac{3}{8}$ selling price of electric light stock.

$$100\frac{3}{8} - 97\frac{1}{2} = 2\frac{3}{8} \text{ gain. } 2\frac{3}{8} \div 97\frac{1}{2} = 3\frac{1}{3}\% \text{ per cent.}$$

$$9. \$1 \div 1.12 = .89\frac{1}{7}, \text{ and } 1.00 - .89\frac{1}{7} = .10\frac{1}{7} \text{ dis. on } \$1.00 \text{ for two years at } 6\%.$$

$$\text{Similarly dis. on } \$1.00 \text{ for two years at } 4\% = .07\frac{1}{4}.$$

$$\text{Difference on } \$1.00 = .10\frac{1}{7} - .07\frac{1}{4} = .03\frac{1}{28}.$$

$$\$15 \div .03\frac{1}{28} = \$453.60 \text{ required amount.}$$

$$10. \$200 \div 1.20 = \$166\frac{2}{3} \text{ cost of first.}$$

$$\$200 \div .80 = \$250, \text{ cost of second.}$$

$$\$166\frac{2}{3} + \$250 = \text{cost of both} = \$416\frac{2}{3}.$$

$$\$416\frac{2}{3} - \$400 = \$16\frac{2}{3} \text{ loss.}$$

THEORY AND PRACTICE.

1. Distinguish between the terms instruction, teaching and training.
2. Which studies do you regard as most important? State reasons.
3. What are the objects of education?
4. When do you consider that a school is well governed?
5. What does rational knowledge include?
6. Do you consider prizes as a proper incentive to study? State your reasons.
7. What is meant by the representative powers of the mind? What book or books have you read on Psychology as applied to teaching?
8. What is the great end of school training? What work or works have you read on Theory and Practice of Teaching? What educational paper do you read?
9. What are the elements of success in teaching? What are the practical points to be attained by an education?

1. Instruction has to do with the imparting of knowledge to pupils. It is giving information. Teaching is developing the mind by an intelligent selection of means. Training is giving skill. Conscious growth is the feature that distinguishes teaching from the other processes.

2. Those which combine knowledge and discipline in the greatest degree. These are means and end in the process of education and those

studies which furnish both will be of largest value.

3. Mental discipline and knowledge.

4. When every member is putting forth the greatest self-activity with the consciousness that he is a part of an organism.

5. Rational knowledge includes that gained by the triple process of thinking. Thinking always involves conception, judgment and reasoning.

6. No. Prizes furnish a low incentive to study. The end should be one always that will leave the character stronger from the doing. Prizes do not develop character. They fix the mind upon an external goal, whereas the goal should be a better self.

7. The representative powers are those which deal with images as standing for former experiences either as more or less exact reproductions or as modifications. Those which are referred to as having been present at some time in the past are said to belong to memory. Those which have never been present as such, but are creations, are said to belong to imagination. See Dewey and McLellan, Roark, and Dewey.

8. Character-building. The school is to make men and women. See Page, Thring, Hammerton, Compayre, Parker, Payne and Roark.

9. First, the teacher must be able to control himself; second, he must be able to make others self-directive; third, he must be in close sympathy with his work and his pupils; fourth, back of all this he must have a thorough knowledge of the subject and of the mind he is teaching. The practical points to be attained by an education are ability to perform and knowledge to be used as a means in this performance.

PHYSIOLOGY.

1. Describe the circulation of the blood in ten or fifteen lines.

2. What does it mean to digest food? Describe the process of digestion till the food is changed to chyle.

3. Name some of the benefits arising from taking plenty of healthful exercise. Mention a few kinds of such exercise.

4. What are tendons? Why would elastic tendons be unfitted to transmit the motions of muscles?

5. To what extent have you studied this subject? Name the authors you have studied in physiology.

6. What are the functions of capillaries?

7. What are the principal nitrogenous foods? The principal carbonaceous?

8. How do clothing and shelter economize food?

9. Tell how the body is composed of organs, the organs made up of tissues, and tissues of cells.

1. The left ventricle forces the blood through the aorta and arteries to all parts of the body except the lungs. The limit of the arterial system is the capillary system within which the return current through the veins commences. The veins conduct the circulation to the right auricle, from which the blood passes to the right ventricle, thence by the pulmonary arteries to the lungs where it undergoes oxygenation, and returns by

the pulmonary vein to the left auricle, and then to the left ventricle.

2. Digestion includes the processes by which food is prepared for assimilation and nutrition.

The process commences with mastication, during which the saliva acts upon the starches and changes them to sugar. Passing then to the stomach, by the three steps in deglutition, the churning process commences while the gastric juice is secreted and mixed with the food converting much of it into peptones. After from one to two hours the mass is quite thoroughly broken up and portions of it pass as chyme through the pylorus into the duodenum, where it receives the pancreatic juice and the bile, and is called chyle.

3. The muscles are kept in a healthy condition; a muscle which is not exercised properly degenerates and is absorbed. The blood circulates more freely. The wastes of the body are more rapidly and efficiently removed. Walking, rowing, running, cycling, lawn tennis, baseball, etc.

4. Tendons are cords of white fibrous connective tissue which serve to attach the muscles to the bony or cartilaginous skeleton. Muscles possess the power of contraction. When contracting they pull upon the tendons, and as the tendons are composed of inelastic tissue the movement is transmitted to the bones to which they are attached. If the tendons were composed of elastic tissue they would simply stretch when the muscles contracted and, as a result, there would be no movement of the skeleton.

6. The capillaries are the blood vessels connecting the veins and arteries. Their walls are very thin and it is while flowing through these delicate tubes that the blood does its nutritive work.

7. Nitrogenous foods: wheat, corn, rice, peas, beans, etc.

Carbonaceous foods: beef, pork, mutton, butter, etc.

8. Clothing and shelter protect and warm the body, keeping it in a healthful condition; consequently the waste is not so great as it would be otherwise, while less of the food is consumed to keep up the normal temperature.

9. Examined merely from the outside our bodies present a considerable complexity of structure. Dissection reveals the fact that the body is made up of a great number of parts or organs, each organ having its own function. Each organ is built up of materials known as the tissues. The same material often enters into the composition of many different organs. Examination with the microscope shows that the tissues are built up from smaller units known as cells. The cell is the primary unit, and it is by its reproduction that the tissues and organs are formed.

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No. 6.

INVENTION VS. IMITATION IN CHILDREN.*

J. MARK BALDWIN,

Professor Experimental Psychology, Princeton University.

THE recent literature of the social life in which the imitative functions have had so much emphasis, has tended in the minds of some to obscure the great fact of invention, while that tendency, in turn, has prevented others from giving the facts of imitation due weight. In the pages in my own development of the imitative functions,† I have tried to keep to the natural history standpoint as far as possible, tracing what seemed to be clearly imitative, and giving genetic views of the rise of such functions, without raising the question one way or the other as to the mind's initiation or invention of what is new. This question can not be put off permanently, however, and I now propose to take it up for direct discussion. How can the mind invent anything new? Or, put conversely: how far is what we call invention really the creation of anything new?

This question may be approached, I think, most profitably, from the side of the child's early development. And this approach to it has the merit of giving us results in direct relation to those already reached in the discussions of the imitative functions from the same point of view. If the child is inventive at all, he must show it in connection with the attainments which he makes everywhere; even in those attainments which we

find reason to call imitative. We can not divide the child into two partial selves, two realities, coming up to the facts of life with different capabilities, one fitted only to imitate, and the other fitted to invent. Of course it is the same child whatever he does; and if he be gifted with the power of invention at all, this power must show itself in all that he does—even in his imitations.

This general claim may be enforced by the examination of the child's very imitation. Such a direct appeal to fact will be worth any amount of abstract discussion of the merits of imitation and invention in the mental life generally; in which—as is so often the case—the two types of function are considered by definition at the start as far removed from each other as the letters “vs” put between them would suggest. In the opinion of many, an act is either imitative or inventive, and in performing it the child is either a creator or a slave. The phrases “divine creation” and “slavish imitation” are common enough.

Yet before we go to the child, our enquiry may be abbreviated, by a little more definition of the term “invention,” as the present state of psychological doctrine enables us to set its limitations. There is no question in psychological circles to-day regarding any such thing as used to be considered absolute mental creation. The newer doctrines of “mental content” on the one hand, which holds that no elements of representation can

*Other articles by Dr. Baldwin along this same line will be found in Vol. I, pp. 6 and 269; Vol. II, p. 126; Vol. III, p. 232, of THE INLAND EDUCATOR.

†*Mental Development in the Child and the Race*, chapters VI, and X-XIII.

get into consciousness except as they were present first in presentation, and on the other hand, the doctrine that the activities of consciousness are always conditioned on the content of presentation and representation in consciousness at the time—these positions make it impossible to hold that the agent or the mind can make anything for itself “out of whole cloth” so to speak. The former of these views, held now by everybody, leads us to look in all cases of imagination—even in all cases of invention—for elements of material themselves more or less familiar to the thought of the person who makes the invention before he makes it. The phrase “imagination is constructive, not creative” has crept into all the textbooks, even into those whose authors find some other grounds for holding that absolute initiations come from consciousness itself. We have the right, therefore, to draw our lines somewhere inside of this view of current psychology.

The other doctrine referred to is about equally established, although not so generally known in popular statement as the former. Psychologists look upon the activities felt in consciousness as being in some way involved with the mechanism of movement—either the movements of the muscular system or the movements of the attention; and then they find these movements to be in some way expressions of the content in consciousness.

If this be true, there are only two ways that we could hold to a doctrine of creative action on the part of consciousness. We might say that consciousness made new products for itself quite outside of its experience, but by the activity which its experience itself gives rise to; but that contradicts the fact of experience which is formulated in the principle just spoken of—imagination is “constructive but not creative.” The other view—and the only one left open to us—is that these activities in some way give a new shape, form, synthesis, sifting to the very content from which they arise. This latter

view then, if it be true, as was said, that both the content and the activity are conditioned upon the growth of experience, ought to get some intelligent support from the careful examination of the growth of the child's experience, at the very time when he seems to be most clearly illustrating both of the limitations imposed by psychology upon his originality. I say he is in childhood most clearly subject to these limitations, because then he is mainly a learner. He does not turn out many startling inventions then—at least, they are not startling to others, however they may seem so to him. As a matter of fact, we can usually see whence he has derived most of the material of his thought, and by what kinds of reaction upon his material he has come to get it into the form which his little inventions present.

The task, therefore, to which we bring ourselves is a very plain and simple one: to detect in the inventions of the child, in the games, sand-piles, toy-houses, statements, beliefs, etc.—any contributions he himself makes to the examples, situations, events, shape of tool, or what not, which stand ready at his hand and which he comes to perceive, think about, or act upon. In short, what does he as an individual contribute to the complexion of his thought?

There are two general principles involved, to my mind, in all child's originalities. These two principles have grown up in my own mind (if I may speak so personally) as necessary interpretations of the innumerable observations which I have made of children in the last few years. I shall venture to state one of these principles at a time in the form of a somewhat dogmatic sounding opinion, and then go on to cite some of the evidence upon which it is based and give some illustrations.

1. The child's originalities are in great part the new ways which it finds its knowledges falling together in consequence of its attempts to act to advantage on what it already knows; or made more brief, its originalities arise through its action, struggle, trial of things for itself.

2. *The child's originalities, further, are in great measure the combinations of its knowledges which it feels justified in expecting to hold for others to act on also.*

These two statements I do not mean to make as two distinct principles operative apart or in opposition to each other, nor are they the expression of a chronological order in the child's development; they rather present phases in the one fact of invention, and for convenience of reference we may call them respectively the "personal or imitative phase" and the "social phase."

There is a further statement, also, which I may make of both of them before going on to consider them separately—a statement which it is well to make in advance of its clearer formulation from the evidence—since it brings the topic well into connection with the earlier distinctions of the child's development. This statement is to the effect that the child's invention are in these two phases reflections of the two-fold aspects of his own personal growth. The child grows by the absorption of material from the persons about him, in the first instance, and then, in the second instance, attempting to legislate his own growth—the facts which he has found out about himself as a personal being—back into the persons around him again.*

Now the first phase of this inventive activity is shown in connection with the first of these personal movements; he is original in the way he learns, or takes in personal elements from his associates. And the second phase of his originality is a function of the other process of his personal life. He is original in the way he treats others, the way he comports himself in his intercourse with them. And the latter is a sort of test or proof of the former as to its value to the child himself.

I.—We may now take up for fuller treatment the "personal" or "imitative" phase of the child's inventions.

We may make use at the outset of the

great fact that all the child's processes of absorption from his personal associates work through his tendency to imitate. The interesting character which draws him to this element or that in the man, woman or child from whom he learns, is itself due to imitation; for his interests are really only the intellectual reflections of his habits, and his habits are the motor phenomena which have resulted from his earlier activities of the same imitative type. But quite apart from the mode of acquisitions—we are constrained by the facts to say that the method of his personal progress is imitation. For if we say that he cannot do anything without some approximate ability to apprehend what he is to do (that is without some content of revival of something already apprehended on an earlier occasion); and if we go on to enforce the other psychological truth put in evidence just above (that no action can take place which is not in greater or less degree the proper outcome of the motor energies of the revived content); admitting these two points, then the action which the child performs in any case must have an imitative character just so far as the habit which it tends to stimulate is true to the actions outside him which the child observes. For example, say a child sees me finger a ring. He has certain habits of action. The content of his consciousness—my fingers—tends to start the one of his habits of action which is attached to other contents most nearly like this one—i. e., his own fingers. But this movement thus brought about of his fingers is imitative; and the fact that it is imitative, that is, that it is the motor expression of a presentation like the one set before him—his fingers substituted for mine—this is the reason that he learns the movement. It is only by such movements that he can learn anything. If he acts strictly on the revived elements of content which come up in his own consciousness from within, then he is acting strictly as he has acted before, and that teaches him nothing. On the other hand,

* *Mental Development*, Chap. XI, § 3.

he can not act on things absolutely new outside him, for they come into his consciousness with no tendency to stir up any particular kinds of action. So he can not act suitably upon them at all. Hence it is only those new presentations *which are assimilable to old ones* that can get the benefit of the habits already attached to the old ones and so lead to actions more or less suited to the new. But this is to imitate the new presentation. The actions attached to the old are utility habits adapted to confirm, support, reproduce the old, and so through the resemblance between new and old, to reproduce also the new.

But the reader asks at once: does the child learn anything by such imitations? Is he not simply acting out his habits, just the same whether it be the thought of his own fingers, directly, or only the thought of them indirectly as suggested by the sight of some one else's fingers which brings out the movement?

To this question we may answer, yes, at once. The child does not learn anything simply by the movement, since it is a movement which he has made before. But let us put the question more broadly and ask whether he learns anything by the situation as a whole: that requires a very different answer.

Before we go on, however, it may be well to see just where we are. We have been giving, as may have been evident, the basis of what is usually called the "instinct of imitation." The instinct to imitate operates by the use of the movements required to do the thing imitated. But unless the child has a sense of what movements will do it, he cannot produce them. This sense of the proper movement can only come from the earlier performance of those movements in connection with some other mental content. And the movements associated with another mental content can be available for this content only if this new content can take the place of the old one in the motor scheme. Putting now the reader's question, we may ask:

how can the imitative situation, the imitative instinct, operate to instruct the child?

We must, at once, see that the child's own movements, his imitative actions, bring new elements into his mental situation. Just after he acts he has three things in his mind—let us say in the case of the imitation of the movements of the fingers. First, he sees the movements of the other person: then he has the memory of his own finger movements (probably indeed both of his fingers as they look and of the felt movements of them): then, finally, the sight of his own finger movements. Now we have two cases of what may happen, and which it is to be will depend largely on the age of the child. He may learn something, or he may not. If he have already attained what is called "persistent imitation"—the try-try-again tendency—or the more developed exercise of volition which comes up in the exercise of persistent imitation,* then he will learn. Indeed, then he cannot help learning.

For he will see the inadequacy of his attempt in the first instance and then rally his forces to do better. This means that he will act again, but not as before, simply upon the old sense of his earlier finger movements, but upon the whole three-fold complex content which is now surging in his consciousness for expression. And added to it all, there will be a number of extraneous elements resulting from his action: strains due to his attention, twitchings from his other limbs, rushings of blood to the head, pleasant emotional excitement, presently fatigue in the muscles used, etc., etc. Now let him act a second time. There is then a new complexity of content, more varied, and as strange as the former. Let him go on trying till he hits it—succeeds in doing my finger movements after me—and then ask whether this movement is all that the child has learned. Apart from the acquisition of the finger combination which is his immediate object, he has learned a variety of things. Only the principal fea-

*cf. *Mental Development*, p. 374 ff.

tures of his learning may be mentioned here, the essentials of the fact of learning itself, apart from the details of this particular finger-exercise.

He learns we may say, first, a great number of muscular combinations which are not those which he is after. Each of the single efforts which he makes is in some respects a novelty to him, and each has its interesting features. Indeed, if we watch him, and especially if we withdraw the "copy" which our finger combination sets before him, we may find him becoming so absorbed in the single efforts which he makes, the partial successes which crown his efforts, that he forgets to go on trying. He begins to reproduce his own combinations again and again, and so to learn them. So in all his efforts, no matter how far removed they may be from the "copy" he sets out to imitate, in each of them is a possible combination of fruitful pursuit.

Then, again, there is another very marked and valuable aspect of his learning through these imitative exercises. He learns the method of all learning. He begins to see that it is he who varies the "copy" by trying to reproduce it; that he turns out interesting combinations which are his own peculiar property. He stops in wonder before his own doings and runs again to his elders or to his companions saying, "see what I can do." He thus grows to recognize himself as more than a mere imitator. He begins to see that it is just by this method of exercising themselves that the other persons from whom he is accustomed to learn get their facility in giving him new things to learn: and so he gradually begins to see that after all he is not entirely dependent upon them for the setting of new lessons—he begins to be in a measure *selfregulative* in the tasks of his daily undertaking.

Those are the two great aspects of his learning—each more important than the mere acquisition of the one action which he sets out to do. In regard to that latter he is imitative, he is constrained by the "copy,"

he is in a sense a slave so far as it is legitimate to look at him as in any wise merely learning that one thing. The weak-minded are in this sense merely imitators; they learn only one thing at a time, and learn it by the direct compelling force of the "copy" set up before them and driven into them. To them alone is it a sign of slavery to imitate. And to them it is so merely because they have no capacity to be anything but slaves. Remove the bonds of their limitation—the imitative tendency—and far from becoming free, they would perish. But the normal child, the child of restless attention, absorbing interests, the dawning sense of an agency of his own which is destined to set law in its turn to the world as well as to itself, he is never a slave even in his most strenuous imitations.

We may say that each of the situations which arises from his effort to reproduce the "copy" is an invention of the child's. It is so because he works it—no one else in the world knows it nor can reproduce it. He aims, it is true, not at doing any thing new; he aims at the thing the copy sets for him to imitate. But what he does differs both from this and from anything he has ever done before. It is a new synthesis of old material; in this case his old pictures of finger movements, with the new picture presented to his eye, and his old strains of muscle, shortness of breath, rushing of blood, setting of the glottis, bending of joints, etc. But the outcome,—he has a new thing to contemplate, and he is a new person to contemplate it. The whole plane of his being and contemplation is now higher.

We have already seen how it is that his sense of himself grows from these accretions of the elements of personality taken in by imitation. It is thus that what is "projective" in the personal life of father, mother, etc., gets incorporated in his thought of his own subjective self. This new self, at each new plane is really an *inventor*. The child not only becomes the

whatever aspect of his personal growth we may pick out to contemplate—he does more. He makes it, he gets it for himself by his own action, he achieves, invents it. And the same is true of all his knowledge. He never simply takes the knowledge of some one else. This it would be impossible for him to do. Even the weakminded of whom I have spoken must have enough self-control to imitate, and enough assimilation to hold together in a new form the elements which surge into his consciousness through and with his imitative acts. The active, healthy child brings a new self up to a new object every time he acts in a way not entirely dictated by habit. And the result, the second result which then again follows his new act, is another invention for him to take delight in. The growth of self is the growth of his demand that his results shall show more and more independence of the external. The growing complexity and utility of the invention he turns out is a new premium put in his thought upon the need of considering himself more than an imitator. So he gets constantly to view himself more and more as a free man who bends nature and his fellow-man to his will, and to view what he does as contributions to the arrangements and utilities of things.

To see practically how this works, take this instance from my child's use of her building blocks. She sits on the floor and I ask her to make a church like the one she sees sketched in her book. She begins, lays the foundation of the church—a long line of blocks laid straight, with another line crossing the first line about two-thirds of its length. Then suddenly her face lights up and she takes more blocks quickly and lays a third line parallel with the second and crossing the long line at one third of its length. "What are you doing that for," I ask. "I never taught you to make a church with two cross lines." "Oh, no! I am making an animal" says she "with a head and a tail and four legs." She had, to my knowledge, never made an animal like this

before. And she certainly did not set out to make an animal. It had come to her in her progress with the church that the arrangement might be altered so as to stand for an animal. That is, her mental picture of the church had come—in her action upon it, in laying the cross-line of blocks, especially—to assimilate with her old skeleton outline of an animal; and forthwith, by the addition of another line like the former, the church turned into an animal.

Now, this is an invention in the strictest sense. It is peculiar to the child. Who ever before made an animal out of a church? What external influence suggested to the child the similarity between the essential lines of the two objects? What former single mental picture of her own adequately explains this sudden outcome? If none of these, then all of her resources short of invention are exhausted, and we must say that she is really an inventor as much as any historical personage is who has enriched the world by his thought.

But now the child does something further; she calls on everybody in the room to come and see the animal which she has made. She, no less than the first maker of whom we are told, "looks upon the thing that she has made and lo! it is very good." And then she amuses herself by making the animal again and again, saying; "It is not a church, for a church doesn't have those two ends" (the third line across). "And I made it." So—and this is her second invention—she has changed her thought of herself. To herself she is a new person who can make animals out of churches. She is in a new sense—or at least from a new point of view—an agent; her growing sense of her own original power over things, her freedom to depart from the thralldom to imitation, receives a great impulse. The next time she comes to play with the blocks the splendid invention of this occasion is full in her mind; and the blocks, together with the suggestions which I make for their use, are to her things for her domineering ego to trifle with and

despise as never before. She has, therefore, come to a new thought of herself and this is also a discovery, an invention.

So, numerous instances might be sighted from the lives of the children, all more or less complex than this one, but all the same in the essential elements of the situation. The great fact to be remarked is that which was formulated at the beginning: that the result is the outcome of the child's action, of her personal struggle, in the first instance, and then that the nature of her struggle is seen to be that of the strenuous exercise of the habitual and suggestive activities which she has already acquired. The originalities are not bolts from the blue, nor earthquakes from below, they are simply the child's own interpretation, through his own action, of the situation which spreads its elements about him in the matter-of-fact methods

of his daily life. By exercising his habits in the new and original ways which strenuous imitation allows, he finds out more about himself and the world, and it is we who find ourselves enquiring from the point of view of our ignorance of the processes going on in his consciousness, how such a beautiful, true, useful, thing could have come to be his discovery.

So much may be said of the facts of the child's originalities from the point of view of their origin: the facts merely have occupied us. It remains now to consider the second aspect of the case pointed out above under the phrase "social" or "cooperative" invention. It will be remembered that the aspect now put in evidence in some detail was described as "personal" or "imitative" invention.

PRINCETON, N. J.

(To be continued.)

RELIGIOUS TEACHING IN THE SCHOOLS.

T. D. A. COCKERELL.

IT is well said, in every sense, that a man's religion is the chief fact with regard to him. A man's, or a nation of men's. By religion I do not mean here the church-creed which he professes, the articles of faith which he will sign and, in words or otherwise, assert; not this wholly, in many cases not this at all. We see men of all kinds of professed creed attain to almost all degrees of worth or worthlessness under each or any of them. This is not what I call religion, this profession and assertion; which is often only a profession and assertion from the outworks of the man, from the mere argumentative region of him, if even so deep as that. But the thing a man does practically believe (and this is often enough *without asserting* it even to himself, much less to others); the thing a man does practically lay to heart, and know for certain, concerning his vital relations to this mysterious Universe, and his duty and his destiny there, that is in all cases the primary thing for him, and creatively determines all the rest.—CARLYLE, *Heroes and Hero Worship*, Lect. 1.

If the above quotation from Carlyle is

even approximately an expression of the truth (as indeed I believe it to be), it must be fairly apparent that in our non-religious education we are building edifices which lack the only stable foundation possible for them; or to be more explicit, we are turning out citizens whose conduct, however admirable for the time being, cannot be relied upon to continue so under stress.

To a statement put thus plainly and baldly, exception will at once be taken. It may be denied, in the first place, that we can in any case provide this religious foundation; also that our neglect in any way implies its absence. It may also be remarked, with probable justice, that citizens educated in definitely religion

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self, will readily testify that my respect for the Bible was not increased, but very sensibly decreased, by my obligation to learn and recite portions of it when at school.

It is the purpose of the present paper to enquire how far these objections are valid.

Carlyle's statement as to the nature of true religion may be tersely expressed thus:

A man's religion consists essentially of the axiomatic beliefs from which he deduces his lines of conduct.

It thus stands in the same relation to his ordinary reasoned beliefs as the axioms to the demonstrations in geometry. Inasmuch as nothing could be deduced without axioms, it is self-evident that some form of religious belief—in the broad Carlylean sense—is essential to ordinary sanity. But experience of humanity shows that the instability of the axioms is as great a source of confusion as the inaccuracy or incompleteness of the deductions therefrom. That is to say, people are not so sure of their religion as to be willing to act in accordance with it. Their actions are, in fact, largely compromises, intended to be, so far as possible, in accordance with two or more opposite and mutually exclusive sets of axioms. Logically, such a position cannot be defended; it is as though a person, arriving at cross-roads and not knowing which to take, cut across country in a direction bisecting the angle formed by the meeting of the roads.

We are not now concerned with the ability to make correct deductions, but with the formation of distinct and permanent fundamental ideas. I suppose it may be taken for granted that an individual or a nation should know its own mind; I presume that it will readily be admitted that the real progress of humanity has been mostly effected by persons of fervent faith, though in some cases justly called bigots.

Admitting this, we may ask ourselves as teachers: Can we make our pupils religious? and if so, how?

It may readily be affirmed that a person's religious beliefs are, at least, greatly influ-

enced by his surroundings. Let any one ask himself how he came to think as he does, and he will be sure to attribute his mental attitude, in part, to persons he has met, or books he has read. Even now, after some 1900 years, no one can entirely escape, I think, the influence of the life of Christ: nor indeed, of that of many other persons ages ago departed from this world.

So the teacher has to admit that in any case he will be nearly sure to influence the beliefs of his pupils. It ceases to be a question of whether, and becomes one of how.

Now in three different ways, it seems to me, he may exert a distinctly soul-deadening influence. The worst is by insincere profession of some religious doctrine. A dead religion can never be made to live in another's heart. The pupil, so far from forming clear fundamental ideas, gets the thought that all such ideas are essentially false, that the very heart of things is little better than humbug.

The next worse is by a frank materialism, a denial (inconsistent though it be) of all things unknown. This can only result in cramping the young soul, as the Japanese cramp and dwarf trees by growing them in small pots.

The least evil, perhaps, is the thoughtless but honest affirmation of a set of doctrines which the most superficial examination will show to be partly, at least, inconsistent or even false. These may take root for the time being, and grow vigorously; but the intellect, stimulated by the tendencies of the times, eventually revolts, tears them out wholly, leaving an aching and hardly satisfied void.

Sectarian teaching almost always consists of various combinations of the first and third methods outlined above, intermixed, it is true, with certain amounts of the true spirit. On the other hand, our non-religious teachers cannot expect, on the average, to succeed much better. While not many exemplify the second class above, the non-avowal of fundamental ideas has nearly the same

effect, besides savoring somewhat of dishonesty. What would be thought of a scientific man, who resolutely avoided all reference to the conception of evolution? What could be the value of his teaching, though founded on a reserved mental acceptance of that idea? We thus find ourselves in a very difficult position; one which, I fear, we are but ill-fitted to cope with. As a body, our own axiomatic beliefs are all too feeble, our religious convictions too weak. We feel like the blind leading the blind, and are tempted to let the whole business alone lest we together fall into the ditch.

Yet we may, I believe, at least stimulate interest among the pupils, so that of themselves they will in time reach clearer degrees of vision than ourselves. The great thing is to set the mind in motion, to arouse a desire to understand, to point out that there is else than that we see before us. We can, I think, afford to be very diffident about the deductions to be drawn; we can best avoid all semblance of dogmatism, but our enthusiasm should flow unbounded.

For a first lesson to young pupils I would suggest such an experiment as I give here: Take a candle and a piece of paper. Weigh the paper, then light the candle and burn it. Weigh the ashes. They weigh so much less. What is lost? and where has it gone? Formerly men did not know; now they know; explain the matter.

Take now a small animal, say an insect. Let it jump about so that all may see it is alive. Weigh it. Kill it, and weigh it again.

It weighs the same. But the children will at once perceive that something has gone. Life—where? We do not know yet. Thus they are introduced to the first great mystery. The subject may be followed up in various ways such as will at once suggest themselves.

For a somewhat more advanced class, take a compound microscope and show the blood corpuscles. Each is a little individual, each eats and breathes, each lives its little life and dies. They are our corpuscles, we say, we have dominion over them. May not we have the same sort of relation to some greater power? So we lead on to the conception of God, which once grasped by the pupils in this way will never be wholly lost.

Further experiments, or parables we might as well say, will be readily devised by the teacher.

Then we must not fail to make use of suggestive and stimulating literature. There are many portions of the Bible which may be read with advantage; and the life of Christ, followed by an account of the history of the Christian church, cannot fail to inspire whatever view we take of the theological doctrines connected therewith. The life of Buddha, as set forth in *The Light of Asia*, may also be read, with the omission of portions not readily followed by pupils. Ruskin's various books are most valuable and entirely religious in their tone. Many other writings will readily suggest themselves, bearing always in mind what it is that is wanted in them.

MESILLA PARK, N. M.

CLOSER SUPERVISION OF THE DISTRICT SCHOOL.

W. B. SINCLAIR.

THE problem of district supervision has been receiving much attention for the last few years because of the evident need of improvement in that direction.

It is not the purpose of this paper to present an

argument in favor of close supervision of the rural school. The need and economy of it are too apparent to need discussion. But a plea for better supervision—giving the supervisor better facilities, better qualifications

touching a responsive cord in the experience of every district teacher.

The cities of this country first worked out the problem just as the Free Cities of Europe first solved the great questions of civilizations. As early as 1834, the city of Buffalo inaugurated a system of supervision and was soon followed by New Orleans, Baltimore and Brooklyn. Supervision in cities is so closely related to that in rural districts that any argument in favor of the former is applicable to the latter also. They are based upon the same theory, only the conditions are such that both the need and the difficulty in the rural districts are greater than in the city. Thoughtful business men as well as school men very wisely concluded that if supervision was economical for the city, and rendered their schools much more efficient, it would also have a similar effect upon the rural schools. A history of the inception and growth of this idea is interesting, in that it shows the growing tendency of even non-school men to regard teaching, and especially supervising, as a profession.

The supervision of country schools has now become so general that nearly every state and territory has adopted some form of it. Seven states have township supervision; three have a district system: in Louisiana, Mississippi and West Virginia these two systems are combined, and in thirty states and territories there exists some form of county supervision. This great diversity shows that all recognize the need of some system and are blindly searching for it, but that no plan preeminently better than all the others has yet been devised.

Like the hero in the romance, the county superintendent, or some one similarly empowered, is the most important factor in rural supervision. In the Indiana system the diversity and multiplicity of duties devolving upon the county superintendent are barriers in the way of frequent visits and thorough inspection. His functions are quadruple. As a county officer he has judicial, legislative and executive powers concerning much local law and regulations. His duties are partly clerical—as book-keeper, report-maker, and statistician. In the grading of manuscripts and granting of licenses his work is partly clerical, partly professional and partly judicial. His supervision of the schools through visitation and teachers' meetings is almost entirely professional, and should be made the chief function. As it is he can only devote such time to the latter as he can spare from the other imperative duties. The amount of good he can accomplish, ability and zeal being equal, depends upon the amount of time at his disposal and the number of schools under his jurisdiction.

Though the power to grant license and the duty of school visitation be vested in the same individual, the former can not be exercised judiciously without the experience and observations of the latter. In counties where the large number of schools renders it impossible to visit all, how can the superintendent do more than guess at the teacher's success? Yet, that item counts as much as a scholarship which may have cost the applicant much study, time and money.

Close supervision must begin with the careful selection of an eligible list of applicants from which trustees can employ competent, faithful teachers. This list of eligibles should contain the names of all teachers who have been tried and found capable, and should be reinforced each year by new blood coming into the profession either as young energetic beginners, or successful teachers from other counties.

The possibility of the general success or failure of the schools of a county depends so directly upon the character of the teaching force that quality must be made to count for more than quantity; hence, a system of pruning must be constantly employed. There are those to be kept out of the profession who are not qualified to enter it. Others, there are, who must be eliminated because of the existence of symptoms of premature professional death and decay. The efficiency of the teaching force will depend upon the supply, and the superintendent's ability to discern and select the most competent applicants and to organize and put them upon the highest professional basis. This requires a student of human nature, with the power to plan, execute, direct, teach and organize chaotic elements. He must understand the machinery of the school in every phase and the fundamental principles underlying it. He must have power to inspire others, not that he can give scholastic education or professional training, but he can direct the beginner, check the adventurer and stimulate the laggard.

A high authority has said that instruction is of little value, and perhaps vicious, unless it is professional and scientific. The superintendent can not make the work professional nor scientific in the true sense but he can do much in that direction.

He can direct the exercises of the county and township institute, the teachers' meeting and the reading circle work into the channel most helpful to his teachers. One of the most apparent needs is more frequent teachers' meetings with the superintendent or some competent teacher to lead and direct the exercises. This would offer opportunity to discuss and work out many questions of government and method arising in the experience of the teachers.

It is through all these avenues that the superintendent must direct, stimulate, and lead to higher endeavors and better results. He is supposed to discover if any teacher is getting dangerously near the professional dead-line, and either to work the miracle of regeneration in his case or make an easy way for his escape from the profession. The teacher who has passed his climax is no longer the most useful in the school-room. It takes life to beget life; it requires growing thought to stimulate thought in others. Those teachers succeed best who are, themselves, in the midst of a healthy intellectual growth. It is an important duty of the supervisor to discern the professional conditions of his teachers, and make their improvement as general as possible by encouraging them to attend good schools and utilize helpful books and journals devoted to their profession.

The visitation of schools, though most direct, is not more important than the selection of the teacher. It furnishes, however, an opportunity for observations which can be discussed with the individual teacher, or made the text for useful suggestions at the institute.

I believe of all the phases of our school system that of supervision is susceptible of the greatest improvement, because there is the greatest margin between its present condition and the limit of its possibilities. It was the last function added to our system, and some still consider it a useless innovation.

Visitation is purely professional, and is a waste of time and money, unless the supervisor is able to see through the school—see its unity and the secret of it, or its discord and the cause of it, and able to suggest a possible remedy if the latter condition exists. He should be able to determine whether good order is an enforced obedience to arbitrary rules behind which is an iron hand or

the willing compliance of pupils to recognized principles of right. Visitation gives the supervisor an opportunity to judge of the teacher's ability as an instructor; whether thorough or superficial, whether principles are mastered or surface skimmed.

A critical study of the teacher and her methods will not always solve the difficulties. She may be qualified as to scholarship, and sound as to method, yet the environment of the pupils and the conditions of the school, in general, may be such that a high grade of success is impossible.

The young teacher particularly needs the frequent visits and frank criticisms and suggestions of the competent supervisor, but unless the visits can be frequent it is often unsafe to suggest radical changes. The teacher may not have the ability or the facility to carry out the reform, or she may go to such an extreme that the last state of the school will be worse than the first. It is not possible to give teachers a recipe for each of the ills of the afflicted schools, because the conditions of the occasion must determine the remedy, and like the miracle at the sacred pool can only be performed while the waters are troubled.

The increased attention and discussion devoted to this subject is a hopeful sign that its need is becoming more apparent, and it is to be hoped that some means will be devised to render it more efficient. Great advance can not be expected until the number of schools under each supervisor is so limited that he can visit them more frequently and remain longer, and thus come in closer contact with both teacher and pupils, discovering their needs and giving them the benefit of his superior knowledge and professional experience.

KNOX, IND.

[Written for the Northern Indiana Teachers' Association, at Elkhart and printed in compliance with a resolution adopted by the Country and Village Section of that body.]

INTELLECTUAL EVOLUTION AND MORAL INVOLUTION.

M. F. CUPP, M. D.

WHILE reviewing two recent *Lives of Washington* the critic used these suggestive words:

The appearance of two books on "Washington" within a few weeks of each other seems to threaten a new biographical craze, like that which gave us an endless serial on Napoleon, or tortured our eyes with the portraits of Lincoln's innumerable and hard-featured relatives.

This furnishes a sad indication of the blindness of a degenerate age, revealing at a glance the view-

point of the modern ego, and casting a powerful ray of light upon its unconsciousness of a far-reaching menace. It likewise illustrates the irreverent spirit already too widely known as the peculiar property of the American prig.

The American of to-day when contrasted with the American of forty years ago, fails to 'one with due respect. Yet it is apparent characterless features now so often

although they indicate the gradual obliteration of essential elements of strength in manhood, form the ideal of the writer quoted.

The following passage, which the critic quotes from one of the books named, sounds a different note:

No one in Virginia thought that 'becoming a mere scholar' was 'a desirable education for a gentleman.'

These words are an infallible assurance of the absolute sanity and thorough soundness of Virginian judgments at the time referred to. Unfortunately the more serviceable "knowledge of men and things," once so highly valued, is now almost obsolete. Yet, modern literature furnishes us examples that are truly good. If they have faults, they consist in exclusiveness and excessive refinement. Nevertheless, that we are still capable of appreciating the value of the out-of-date civilization of our forefathers finds proof in the delight afforded by those masterpieces of literature which portray in bold outline scenes drawn from the simplest rural life. The effect is one of naturalness, simplicity, strength, wholeness—sublimity. In them we contemplate nature's own ideals and feel that we stand face to face with the great Author of all.

This leads us to the physical basis of mind, now freely admitted, and to a realization of the dependence of the organism upon the elements in nature, for the human body is only a highly differentiated form of matter, the product of her tireless loom. Its excellent qualities and splendid functions are but the result of perfection of arrangement, proportion, and favoring environment. The nearer we get to the conditions of our common origin the more perfect specimens of the race do we find, while removal from these conditions lowers the standard. Our present tendency is in the latter direction. To faulty development from wrong life habits is due the immense crop of defective eyes, deformed spines, and gnarled and twisted extremities. To suit the phrase to our modern ideas, we are ruinously civilized.

Civilization is but another name for the combined opinion of a powerful aggregation of individuals. Reflection on the factors that have evolved this consensus of judgment does not beget feelings of pride. Rather, we would exclaim: O, civilization! what strife, suffering, bloodshed, and woe have been inspired by thee! The earth has for centuries been bathed in the life-fluid of her offspring! Every advantage and distinction over the nomadic state has been bought at a frightful cost in agony to sentient organisms! More refined, but not less cruel, the warfare continues.

Granting that the human body, to-day, possesses

a wondrous beauty, a charm of contour and a fineness of texture fitted to inspire the noblest themes of poet, painter, or sculptor; that the mental achievements would put the cerebral matter of our worthy ancestors in a hopeless whirl; yet, wherein have we gained? Admit the wonderful powers of observation, keen analysis, penetration to the depths and flights to the heights of the visible universe; yet, what has humanity really gained? If in reaching this position, by many regarded with exaltation, we have sown discord in Nature's "divine harmony;" if we have awakened thrills of delight that merged into pain; if we have wrought refinement but to accentuate agony, can we call it gain? That our zeal for advancement, ease, and affluence has led us defiantly in the face of nature's plainest prohibitions can not be gainsaid. For whatever our capabilities, we must not forget that our animal nature takes precedence, demands first consideration. Our renunciation of natural laws has lighted a fever-fire in the blood, and tainted the mind with insanity, yet the work of destruction continues unabated.

One deplorable result of the present régime is the elimination of influences tending to educate the heart. The soul is the seat of the emotions. The modern system of education neither includes nor effects soul-development. It demands only exactness of method and detail. Exactitude even strives to eliminate the emotional. Then the motive is wrong. The great underlying motive is self. As a consequence, the affections become enfeebled. This may be verified by a study of notable examples of profound learning. Feeble affections with degenerated organisms, trained only in calculation, form the ground-work of cruelty, from whence springs crime. It may be seen that persistence in this course, supplying as it does, the conditions favoring the formation of castes, is destined to prove fatal to democratic forms of government, the notion of innate superiority becoming a hereditary belief. From such environment there can develop only unscrupulous self-seeking individuals.

In order to represent the best of life, culture should be such as continually to impress the individual with the fact of his identity with the material world. He should likewise be made to understand that, with the exception of perversions, of traits accentuated or diminished, humanity is the same. The progressive modification of environment may suggest the argument that man has only undergone sufficient change to adapt him to his surroundings. While this view is not illogical, can it be said that the environment is such as will most conduce to adequate physical and moral growth? All sane experience and observation

return a hot denial. The truth is, the force whose modifications of conditional states is known as civilization, is still in the experimental stage. Philosophers have not been able to determine, precisely, what constitutes right life motives. But if we accept the inevitable teaching of the age we must regard self-solicitude as chief. Therefore, make it plain that degeneration and narrowness are almost synonymous. Regarded in this light what can we expect from the nineteenth century weakling, with barely sufficient blood in his body to carry on the vital processes? If the theory of development of the brain by centripetal influences be accepted, how can we look for a vigorous organ when all the other tissues are shockingly atrophied.

The educator is not to be blamed for these unfavorable conditions. He is merely the agent of the commonwealth, with scarcely advisory powers. The responsibility lies with the mighty organization known as society. Through its representatives abuses are propagated. Individually the educator is an atom, to be crushed if he obstructs the pathway of the machine. Moreover, he arises from the social aggregation, tinctured with all its errors and prejudices.

Give us a different aim and purpose in education, of which physical development shall be a fundamental requisite. Reverse the existing order, wherein the effort is to see how little physical training shall interfere with mental culture. Rather, combine them. This will insure abundance of heat, light, air—all the conditions that make possible the formation of healthy tissues, for only sound tissues possess normal sensibilities. Touched, never so lightly, the perfect instrument yields a full, round tone. True education should make man humble by teaching him to know himself. Our present methods evolve too many bigots. Relieve the over-burdened brain by shifting a part of its load upon the heart. The purely intellectual attributes should not dominate the whole being, which is seen to result in coldness and calculation. Reconstruct society. Devote more time and energy to child-study. Learn to read the pupil's unfavorable tendencies and to counteract them.

Thinking may be a proof of one's existence, but thinking is not life. Right education should teach us how to enjoy life to the fullest extent. Methods that dull, warp, destroy or pervert a single faculty are faulty, and should be unsparingly revised. Methods that curtail the natural sympathies are manifestly pernicious and should not be tolerated.

If asked to sum up our present needs, while keeping in mind the fact that the school is society in miniature, my reply would be: More light,

more sympathy, more nature, less slavery to method, and less art.

EDINBURG, IND.

OBSERVATIONS ON THE BASIS OF FIRST YEAR HIGH SCHOOL PUPILS FOR NATURE-STUDY.

Pupils entering the high school have a knowledge of nature obtained from their training in the grammar schools, or from personal observation without specific training. To determine the extent of the knowledge which each pupil possessed, and which might serve as a basis for nature-study in the high school, I had each member of my classes answer, in writing, a number of questions. Some of these questions were arranged with special reference to physical geography, as this is the subject pursued throughout the first year of our high school course. The purpose of the questions was two-fold: (1) to learn what work had been done in nature-study in the grammar schools; (2) to learn what personal experience each pupil has had that might be utilized in the study of physical geography.

The questions asked were as follows:

1. Which of the following animals have you seen alive—

(1) Starfish; (2) clam; (3) snail; (4) crayfish; (5) grasshopper; (6) fish; (7) frog; (8) snake; (9) lizard; (10) turtle? Did you study the habits or structure of any of these while in the grammar school? If so, which ones?

2. About Plants—

(1) Did you plant seeds and note their sprouting and growth?

(2) Name and describe the parts of a leaf.

(3) Name and describe the parts of a flower.

3. Were any experiments performed to explain reflection of light, action of heat, or any other subject of physics? If so, state what the experiments were and what they illustrated.

4. In the study of geography did you take any trips away from school? If so, where, and to see what?

Answer from your experience the following:

5. Name the rivers you have seen.

6. Name the lakes you have seen.

7. Name the oceans you have seen.

8. What have you observed about tides?

9. What mountains have you seen?

10. What large cities have you visited?

11. How much time have you spent in the country?

12. State anything else
nature study, or that

These

ten pupils, coming from thirty-eight different grammar schools. From these I selected six grammar schools represented by one hundred seven pupils, and examined about half of the papers from each school, the number examined being fifty. The summary and the remarks I may make are based on the examination of these fifty papers.

I shall give a summary of the answers to the questions in order. Of the fifty pupils, thirteen had seen all of the ten animals alive. Every pupil had seen the grasshopper and the fish. All but one had seen the frog; all but three had seen the snake and turtle; thirty-two had seen lizards; thirty-one, the snail; thirty, the clam; twenty-seven, the crayfish; and twenty-three, the starfish, nearly all having seen it at the Fisheries exhibit at the World's Fair. In answer to whether they had studied the habits or structure of any of these, one had made observations on the crayfish, two had watched the clam, and seven had made some study of the frog. Six of these seven were from the same school, and a written exercise followed their study of the frog. In a few cases pupils stated that they had made no study of the animals in school, but knew something of their habits from personal observation.

Thirty of the fifty pupils had planted seeds and made some observations on their germination and growth. Sixteen named the parts of a leaf, and twenty-five the parts of a flower. Some of these answers were very good, while others were very poor.

In answer to the question concerning experiments, thirty-five stated that experiments had been performed before the class by the teacher. Some gave but one experiment, while others mentioned as many as ten. Among the experiments mentioned were those to show the solar spectrum; the conduction of heat in different metals; the reflection of light; levers; siphons; elasticity of air; the expansion of iron when heated; the presence of oxygen and nitrogen in the air; magnetism, and others of equal value.

It was in answer to this question that the pupils showed best whether they had retained equally well the facts presented. In most cases, the pupil gave quite a good statement of how one or more experiments were performed and what they illustrated.

To illustrate the difference among pupils I have chosen three papers from pupils who had their instruction from the same teacher in the grammar school. I give their reports of experiments verbatim:

1. "Several experiments were performed. One was to illustrate the conduction of heat. It was performed as follows: A steel bar, upon which at

certain places particles of wax had been fastened, was suspended over an alcohol lamp; as the bar became heated the heat spread along the bar and melted the particles of wax which fell off. Another experiment was to prove that glass tubes when heated and stretched until very thin, do not lose their tubular shape. A glass tube was heated until it was flexible when it was stretched until very thin. A colored liquid was then drawn through it, proving its tubular form was still retained. Other experiments also were performed; one to illustrate the expansion of heated water, one to illustrate the attractive and repelling force of magnetism, and others which I do not remember."

2. "Experiments were performed, but I have forgotten what they illustrated."

3. "We had a few experiments but I have forgotten about them."

Others from the same school described one or more experiments quite well. The three answers given by pupils with exactly the same opportunities illustrate the difficulty with which we all meet in arousing the interest and fixing the attention of *all* pupils so that each shall receive the greatest good from the subject in hand.

Six of the fifty pupils had taken one trip with their teachers. Five of these from the same school had gone in the spring to the Des Plaines River to gather flowers. One, when in a fifth grade in Buffalo, went across the Niagara River to old Fort Erie, and his description of the journey shows that it made a lasting impression. Another stated that while he was on a visit to the Niagara Falls he "studied how the Falls have been eating away the brink of the precipice from Queenstown to the present place; also the channel to Lake Ontario."

Of the fifty pupils, one had seen no river except the Chicago River. Each of the others had seen from three to thirty-eight rivers. Thirty-nine had seen less than ten rivers each; seven had seen between ten and twenty, and four had seen twenty or more rivers.

Eleven pupils had seen no lake except Lake Michigan; ten others had seen *one* lake and eight had seen *two* lakes besides Lake Michigan. The others had seen from four to twenty-five different lakes.

Eight pupils had seen the ocean, one having seen both the Atlantic and Pacific. Six had noticed the tides, and two were able to make good statements concerning them. One stated his observations as follows: "There are two tides, high and low. I have noticed a tide of about eight feet. The high and low tides are six hours apart making two highs and two lows every twenty-four hours. The high and low tide one day will be later the next. For instance, if it was high tide one day at 12—noon, it would be high at 12:40 or thereabouts

the next, making a difference of about forty minutes." Another wrote as follows: "There are two kinds of tides—the flood tides and the ebb tides. The flood tides take six hours in coming in and the ebb tides take six hours in going back."

Fourteen pupils had seen mountains.

Three of the fifty pupils had spent no time in the country. Forty-seven had spent from ten days to fourteen years each in the country, seven having lived in the country from five to fourteen years. Five had spent less than a month in the country, and the greater number spend a month or more of each vacation in the country.

In answer to the last question concerning other things observed, six named the Niagara Falls; two had seen a mirage, one on the prairie, and the other on Lake Erie. Other things named were the Garden of the Gods, St. Louis Bridge, Brooklyn Bridge, Natural Bridge, Horse Shoe Bend, Drainage Canal, and a number of other interesting sights. One pupil wrote: "I have noticed in crossing Lake Michigan that about one or two miles out from shore there is a black line dividing the deep green water from the paler colored water. All along the shores of Lake Michigan are very high sand hills, the tops and about half way down are covered with trees and shrubs."

Some points brought out by this summary may be stated as follows:

1. In the grammar schools from which these pupils have come, some very careful nature-study work has been done, and it has been especially helpful in awakening the spirit of inquiry in the interested pupils. The difficulty of reaching *all* pupils in any subject is found here as elsewhere.

2. The amount of nature-study work in the different grammar schools varies. This is probably due to differences in the interest of teachers in the subject, and in their preparation for it. Botany and physics seem to be the favorite lines.

3. I think we too commonly underestimate the amount and value of the pupil's personal experience. The observations are often crude, for they are made by inexperienced observers, but the classroom work should bring out explanations of those observations and awaken a keen interest in making further investigations. I have noticed in my classes that when a pupil is able to recite on a topic from his own experience, he commands the attention of the class much more readily than when the recitation is wholly from book experience. We should, therefore, help the pupil to widen his experience in the common things of life, and to understand the *why* of those within his comprehension.

D. C. RIDGLEY,

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CHICAGO, ILL.

LANGUAGE TEACHING IN THE INTERMEDIATE GRADES.

(First Paper.)

All language instruction has the common end of giving the pupil skill in the art of composition. It is an error in school programs to treat grammar, rhetoric, spelling and composition as coordinate subjects. Syntax, prosody, etymology, orthography, as well as rhetoric, are accessory to the composition process. They are preparatory. They furnish the mechanical elements with which the composer works. They deal in a special manner with certain essential phases of the composition process. They are an integral part of the course in composition.

This relation furnishes the principle of selection in organizing the courses in grammar, rhetoric and orthography. The spelling is to be applied spelling; rhetoric is to be applied rhetoric. Likewise with grammar. Harvey used to tell us that grammar taught the children to speak and write good English. His book did not do this, but its author had the right purpose. Grammar is the science of language structure. It has its basis in psychology. Its function is to lay a foundation for the development of a rational art of language. It reveals to the learner the anatomy and physiology of his language structure as the same has grown out of the nature of his mind, thereby giving him that self-mastery that affords a rational basis for the mechanics of speech and writing. Grammar study should look directly to better writing and better conversation. Without this preparatory and accessory training in grammar, definite training in composition is impossible. The child must know the sentence before it can punctuate it. He must understand interrogation and exclamation, direct and indirect discourse, subject and predicate, before he can receive intelligent explanation relative to the simplest features of his composition. He must know something of voice, mode, tense, number and person before he can appreciate intelligently the criticisms of these particulars in his speech. Grammar must be viewed as an essential phase of composition study, and as such must be introduced early into the course. No thoughtful teacher will suppose that the formal systematic grammar of college grade should be placed in the hands of third and fourth-year children, but she will understand that those elements of grammar which directly underlie the composition practice of these grades shall be given at the same time; or, better, somewhat earlier.

I fear that in our effort to get away from pedantic and mechanical language work we have gone to the other extreme and are building upon sand.

Composition is clothing good thought in appropriate language forms, oral or written. There are two elements in the process: good thinking, and appropriate language forms. These are to be had only at the price of careful, systematic training. This training to be systematic must be based in the sciences of thought and of language forms. No system of composition study can be substantial that does not rest upon the definite foundation of the science of expression in language. In the great pedagogical unrest of these times a number of mischievous doctrines are afloat. One is to the effect that practice is the road to art. It is alleged that if the boy is merely set to doing something worth the while nature will take care of the result. The great thing, they say, is to be doing something in one's own way. Activity is an absolutely necessary condition of growth: practice is necessary, but if it make perfect it must be practice along right lines, activity under the guidance of right principles. It must be practice under the ruling hand of true insight. All art is technical. Without technique practice never approaches the artistic. Mere self expression is not sufficient. Self expression under the guidance of insight into the principles of expression will give artistic results.

Another doctrine that has a vicious application in some quarters, is the theory of coordinate and subordinate studies. It is proposed that the great thing is to make thinkers; that it matters not so much how the boy speaks, as that he has something to say worth saying; that in the effort to say something worth the saying inspiration or nature will donate appropriate forms of expression. It has even been proposed to focus the child's mind entirely upon the "content studies" and let the "formal studies" take care of themselves in some inferior fashion. It is proposed that if the child can think, he can do all things else. All agree that the child must say something worth the effort, but I can not agree that he shall be permitted to say this in *his own way* or in *any way inferior* to the most appropriate and literary forms within his reach, the ability to do which comes only through careful training under the guidance of insight into the principles of literary art. Accuracy and elegance of expression are possible only by a proper knowledge of the technique of composition.

There is a body of laws of language which the pupil must learn and obey if he would speak and write well. I submit, then, that all language instruction shall be to the end of giving skill in composition; that composition practice from the beginning shall be under the guidance of the principles of literary art, and based in the elements of grammar; that these technical studies, to be sure, shall

be adapted to the attainments of the pupil; that in all language study "the whole man should move together."

Superintendent L. H. Jones has recently defined composition as the process of arranging and expressing in language (written or oral) thoughts, feelings and volitions, under an impulse and for a purpose." This definition reveals two phases of the composition process. The first is the arrangement of ideas—the bringing of thought into orderly sequence. Nothing farther can be undertaken until this organization is complete. Much of failure in the teaching of English composition comes at this point—comes of faulty, or no organization of materials. This phase of the work demands the most careful thought of the teacher. Good thinking is the first condition of good writing. The second phase is technical—the clothing of this organized thought in good language form. This is the artistic element in composition, and one that is *caught* rather than *taught*—caught from the technical study of classic models and in practice under the guidance of principles of expression.

The language work of the grades under consideration is three-fold. The teacher's task consists of three lines of work; (1) Developing the power and habit of organizing thought into proper sequence; (2) Developing the power of clothing this organized thought in artistic and accurate form, oral and written; (3) To this latter end the pursuit of such lines of constructive work as shall give the pupil skill in the mechanics of speech.

Dr. Bryan has tersely stated the essence of educational philosophy in one sentence:—"Supreme effort for the child's 'distance' is the educative thing." *Not all activity is educative.* Dr. Wm. T. Harris has shown that after the individual has pursued a given study or activity beyond a certain point there is an arrest of development. After he has passed the stage of supreme and conscious effort the activity has less and less educative value. Where conduct becomes automatic growth ceases. These truths hold in language work. Merely writing compositions does not mean, at all, that the pupil is being made better therefor. The child that writes automatically does not grow in language power. Or if he writes merely because it is required of him, and thus makes the smallest possible effort, his time is practically wasted. Whatever conditions tend to prevent the child's supreme effort to write or speak most accurately and most artistically must be removed. Whatever device or method will increase the child's effort to write and talk well, quicken his taste and give force to his activity, will bring growth to his language power. The motive in all language activity is the desire to be understood and appreciated. The condition of

educative composition practice is the supreme effort of the individual to make himself understood and appreciated. It is the motive of the child in his communication at all times and places. The intense effort of the little child to make himself understood reveals the strength of the impulse, and, at the same time, reveals the key to his instruction. Skill in playing on this motive is the chief element in successful language teaching. The child must have something worth the saying and be filled with the impulse of communication to his companions in fully intelligible forms of expression.

The importance of the subject-matter of compositions is too often overlooked. Only a wordsmen can talk or write *well* without something worth discussion. The first condition of good thinking, and hence of good writing, is a good theme. I believe much composition practice is wasted because its subject-matter is not adapted to the pupil, or, is intrinsically worthless. The theme ought to possess a real interest for the child. It ought to lift him above his prosaic habits of speech. It ought not to be commonplace. It should be narrative rather than descriptive. Children are far more interested in use and action than in structure and classification. Your ten-year-old wants to see "the wheels go round." He wants to see things work. He cares far more for the use of dogs than for their place in the zoological scheme; more for their habits of life than for their structure. He prefers to know what things can do and how they do them. If our boy is to make his supreme effort at writing or speaking, his theme must fit into his natural bent of mind. It must make a real appeal to his interests. Your ten-year-old is also interested in adventure above all things. The hero has a halo about his head at this time of life that fades away in later years. Stories of adventure furnish admirable material for composition practice. Stories of pioneer life, of Indians, of hunters, and of adventures and noteworthy incidents in the social and nature life about the individual put your boy and girl upon their true mettle.

It is in point at this juncture to speak of a possible danger in current school practice. I refer to the evil of too much reproducing. In the effort to correlate our language-work with other subjects of study, we are advised to reproduce the lessons previously recited, the stories told or read. There is this objection to such practice—rather to too much of such practice. Composition is a two-fold process—a process of organizing thought, and of clothing it in proper language form. In the reproduction the pupil finds the thought already organized more or less completely. He is saved

the necessity of selecting his ideas, and composing them into orderly sequence. Thus, he fails to call into use, and give development to the fundamental activity in the process. The reproduction gives a very good opportunity for emphasizing the form side, but even in this respect it serves very poorly in the creation of literary style. It fails to call into play the creative faculty of the child, and thereby fails of real educative value. It requires too much memory work. It might appropriately be called the memoriter method of teaching composition. An examination of a few hundred reproductions from books read, and from history, science, geography, and literature lessons will demonstrate that by far the larger part of such compositions are but the dull and imperfect repetition of the author's or teacher's thought and language. However, there is a correlation between the language-work and culture-studies that is quite profitable. The particular history story recited in class recitation may be made a centre around which many others having a similar content may be told by the pupils. Problems may arise in the literature which the pupils will exemplify by the narration of numerous particular instances embodying the same principle. In this manner the culture-studies will suggest a large store of material for educative composition practice. The language work may grow out of the subject-matter of other studies, but should not be a repetition of it.

On the other hand, I believe there is great value in oral story telling, especially in the telling of classic stories. No more valuable work can be done in the fourth grade than to have the pupils tell the stories from the *Iliad*, and stories of Moses and the Prophets, of Cæsar and Charlemagne, of Alfred and Peter the Great, of Washington and Marion, of Grant and Lincoln, over and over again just as they sing their favorite songs. Let the teacher inspire the pupils to supreme effort to give their stories literary finish. In the boys' schools of ancient Greece it was the regular practice to memorize and recite their classic literature for the purpose of developing artistic style. The exercise is equally good for young Americans.

W. A. MILLIS.

ATTICA, IND.

All we have willed or hoped or dreamed of good,
shall exist;
Not its likeness, but itself; no beauty, nor good,
nor power
Whose voice has gone forth, but each survives for
the melodist
When eternity confirms the conception of an hour.

—Browning.

SCIENCE IN THE TEACHING OF ENGLISH. XXIII.

COMPOSITION.

DESCRIPTION.

The careful analysis of selections of standard literature, together with the carefully written papers on the same, as indicated in the last two numbers of *THE EDUCATOR* under this title, would give the pupil a good notion of the nature and structure of description, and would indicate to him the method by which he should proceed to construct a piece of discourse. On the part of the children in the grades, this knowledge would be largely unconscious. They would not have constructed formal definitions, or worked out formal statements for the principles of the process. They would, however, have seen the organization of a piece of description, and they would have formed the habit of thinking the thought together in this organized form.

The children are now ready to write original compositions, but they will need a good deal of help in selecting an idea about which to write, and in the organization of their thought concerning it. In order to furnish the materials and the motive for writing a description, let the teacher take some idea, suitable to the grade with which she is working, and analyze it orally with the children, at the same time indicating the purpose which may be embodied in the discourse. The following illustration, together with the accompanying paper will serve to make the work clear:

Place before the children a bunch or bouquet of pansies. We are now going to write a paper about this bunch of pansies. The paper is to be written to some friend who lives in a cold climate, and we are going to try to describe the flowers so as to give our friend an accurate knowledge of them. We will try to present them in such a way that if our friend should see this bouquet, he would recognize it.

Now you may tell me all that we should say about the pansies in order to make our friend recognize them. The children will then give the attributes of the pansies and the parts of which they are composed; e. g., color, size, form, odor, stem, leaves, petals, sepals, etc. The children would name some points which would not contribute to the purpose, no doubt; if so, the teacher should question them, ask them to show how the point in question would help the friend to recognize the bouquet, etc., until they have worked out all the material which would be of service in accomplishing the purpose; and have rejected all points which would not bear on the purpose.

Now, let the children decide which of these points should be presented first, which second, etc. Would it be better to give a general idea of the bouquet as a whole and then to give the particulars, or would it be better to give particulars first?

The children now have the materials and the motive for writing a description of the bunch of pansies. They have an idea about which to write, and something to say about it. After the papers are written, they are to be examined carefully. Some of them are to be read in the class, the teacher and pupils bringing out the strong and weak points in them, as indicated in the last article. This paper, which follows, was written by a student in one of the composition classes in this school. The paper was worked out as indicated above, and it would be criticised and discussed by the class as suggested. Pupils in the grades would not be expected to write as well as the author of this paper; they would need more assistance from teacher; but the nature of the work would be the same, and the pupils would have the same motive in writing, and the same materials with which to work out their purpose.

MY BUNCH OF PANSIES.*

A friend of mine sent me a bunch of pretty pansies this morning, and as I write, they lie in a dish on the table before me. Since you are not here to see them yourself, I will tell you how they look.

The blossom is the most attractive portion of my pansies. Its color is diverse, a deep rich purple, blending with spots of yellow. Or it is yellow, with purple spots. The spots usually have a delicate fringe about their borders. Here and there, a pure white blossom peeps out from among the bright yellow and purple. A few green leaves set off the bright colors of the flowers.

In form, the blossoms are mostly oblong, about an inch by an inch-and-a-half in dimensions. Some of them present a striking resemblance to the human face. The forehead, the cheeks, and the chin are plainly marked.

The blossom, or showy portion, called the corolla, is composed, usually, of five colored leaves, called petals. These are arranged about the center, or cell, of the flower, in which the seeds are to appear. The lowest petal has a sort of spur, projecting downwards. Sometimes this spur is concealed beneath the little green leaves of the calyx. The calyx is a sort of cup, containing the cell and the corolla. It is composed, usually, of five small green leaves, called sepals, each of which is pointed above, and has a sort of spur extending downwards.

The stem, on the end of which the blossom rests,

*This paper was written by Oscar Williams.

is bent near the upper end like a shepherd's crook, so that the flower has the appearance of bowing its head over the edge of the dish. The leaves are nearly round, each about the size of a penny. Curious to observe more of these, I pulled the bouquet apart, and found two or three leaves attached to the parent stem at the same place. Peculiar little leaves, called stipules, are seen growing out of the base of the leaf-stem. My first impulse was to smell this pretty bouquet, but I found it possesses a very faint odor. However, the delicacy of the soft and velvety blossoms compensates for their want of fragrance.

STATE NORMAL SCHOOL.

J. B. WISELY.

SCHOOL MANAGEMENT.

THE TEACHER.

In a series of articles on "School Management," the first and most important subject for discussion is, of course, the *Teacher*. From time immemorial the adage, "As the teacher so is the school," has been before all who have assumed to instruct, to train, to build character. The adage is old and time-worn, but it is still true.

The writer remembers reading, when a boy, one of the Arabian Nights' tales called "Sinbad, the Sailor." This was full of marvelous adventures. One in particular has been remembered. Sinbad was sailing in the South Seas. As he glided along, the ship continued to progress even after the breeze had subsided. He noticed that the ship continued to go faster and faster. Soon a mountain loomed up in the distance. The ship was being drawn towards the mountain. When the ship was within a mile of the mountain, every particle of iron, so the story runs, left the ship and clung to the sides of the mountain. All on shipboard were lost, save Sinbad, who alone escaped and returned to tell the marvelous tale. The story is an old one, but it contains a moral truth which may be applied to the teacher. Each teacher is a loadstone, a magnet if you please, capable of wielding a deep and subtle influence in the community in which he resides. Is he a good man? Does his heart beat in deep sympathy with humanity? If so, he will exert a great influence for good. But if, on the other hand, he is not in touch with the world of to-day; if his heart does not beat in sympathy with his fellow-man, is not warm, but is cold and untouched by the sufferings around him, his influence will not tend to make the buds placed under his care blossom. The rose gives forth an aroma that may be scented from afar. A little piece of musk no larger than a thimble will fill a room with its odor for centuries and apparently retain all its original mass. There goes forth from every teacher,

in school, and out of school, an influence which may be for weal or woe. It amounts largely to this: if the teacher has a strong manly character, is scholarly, persistent, a man of high morality, his pupils will unconsciously come to have those traits. This introduces us to

The Qualifications of the Teacher.

A number of years ago, when the writer was a railroad man, a mogul engine was drawing forty cars eastward on one of the large trunk lines. The engine became disabled so that it could not even propel itself. A second engine of the same kind was close behind the first. She also was loaded with her full quota. The second engine drew her own load, that of the disabled engine and the disabled engine as well, to the end of the run. The impression made upon my mind was an indelible one. A machine did not only its own work, but double that. The engine was not working very near to her limit. Too many teachers are doing business too near the danger line. A teacher in order to be successful must be a broadly educated person. He should be far ahead of his most advanced pupils. Does he teach in the country school? He should have had secondary training, at least, and some professional training. Does he teach in the high school? He should have had a college course or its equivalent. David Page even goes so far as to say that every teacher should be conversant with, and have had thorough drill in, not only all subjects taught in secondary schools, but also drawing, trigonometry, vocal music, book-keeping, intellectual and moral philosophy, and surveying. Many a teacher can govern a school simply and wholly by his superior scholarship. A pupil will never respect a teacher who is ignorant either on school matters or matters of common intelligence. The teacher should not only be a scholarly person, but he should be an "up-to-date" person. He should be in touch with the times, should be a student of current thought. Matthew Arnold was once asked why he spent so many hours daily in his study, preparing lessons, which he had taught for years. His answer was, "I wish my boys to drink from a running stream and not from a stagnant pool." Children never prosper who are fed on cold victuals, no matter how sumptuous the bill of fare. Many teachers excuse themselves for not making daily preparation on the ground that they are too exhausted when night comes to give any thought or attention to study. But we wish to say that a person who is thoroughly in earnest will be able to devote some time daily to the preparation of his lessons. And he will go to his work each morning with a lighter heart from a consciousness of having done his

part. His work, even in school, will be easier, and he will not be so tired when night comes, for it is worry, not work, that tires one and impairs one's health. Then, again, the pupils will soon catch the spirit. Earnestness and perseverance are contagious.

No one should enter the school-room as an instructor unless he has good health. The cares of school work are such that they wear even upon the strong. Then how are the sickly to bear up under the strain to which most teachers are subject?

Many a teacher makes a mistake in not mingling freely with his patrons. He is so accustomed to associate with those who are his inferiors in intellectual power that he gradually comes to consider himself a mental Goliath. A free mingling with the "grown up" people in his district will tend to eradicate this notion from his mind. When mingling with the parents in a social way frequent opportunities will be given to discuss school matters, and a healthy school sentiment may thus be fostered. The writer once knew a successful superintendent who used to spend one hour each day in calling on the prominent business and professional men in his city. He strove to make a personal friend of each individual male patron of his school. This practice aided him wonderfully in his school work. But the teacher should take care not to talk "school" always. He should, in a social way, be able to talk on matters of current information.

The teacher's professional qualifications should be beyond question. Not only should he be conversant with what has been written by such men as Spencer, Pestalozzi, Froebel, Mann, and Page but he should be familiar with the current writings of such men as White, Hinsdale, Harris, Compayré, and Fitch. He should be a constant reader of some educational magazine—one that goes into the philosophy of education rather than one that gives him ready-made plans and devices.

Finally, morally, the teacher should be pure. As we have above illustrated, there emanates from the rose and from the musk an aroma. The rose cannot originate the aroma of the musk, nor can the musk give off the aroma of the rose. Each gives to the world what it has to give. And so with the teacher: if he is a strong, consistent, Christian character, the influence which goes forth from him must be good. The boys and girls under his guidance will find in him a friend and helper. There is no disguising the heart. The child looks deep into the intent of each little act of the teacher. What is the object, aim of education? Is it not the development of character? If such it be, let us see to it that those who go forth from our

hands are educated, go forth as fully rounded, symmetrically builded characters.

W. A. STEVENSON,

Principal National Correspondence Normal.
FENTON, MICHIGAN.

GROWTH.

Out of the cold, pitiless Winter-life,
Springeth the Summer of beauty;
Out of the sadness and sorrow and strife,
Cometh our true sense of duty.
Out of the blackening, piercing sin-stain,
Groweth the purity-living;
And out of poverty's wincing and pain,
Springeth the sweetness of giving.
Out of the stillness and darkness of night,
Shineth the radiant morning;
Out of the glorious Gospel of Light,
Cometh God's promise—and warning,
Out of the summer-heat, burning and still,
Cometh the winter so hoary,
Out of the grave so lifeless and chill,
Riseth the soul in its glory.

GEORGE BICKNELL.

SULLIVAN, IND.

HE WATCHED AND LEARNED.

Recently, a small boy, a real boy, who chases cats and wears out his clothes, and slams doors, showed that he had rare ability in solving the problems and answering the questions that so frequently come into a boy's life. Near the house was a tall maple tree, and the boy announced late in the summer, that the tree measured thirty-three feet. "How do you know?" he was asked. His answer was, "I measured it." "Did you climb it?" "Why, no," the boy said, with surprise; "I measured the shadow." Some one near made the comment that shadows differ in length. He said, "Yes, but twice a day the shadows are just as long as things are themselves. All summer I have been trying to get the height of that tree. I drove a stick into the ground, and when the shadow of the stick was just as long as the stick I knew the shadow of the tree would be just as long as the tree. I measured it, and it was thirty-three feet."—*Outlook*.

The high that proved too high, the heroic for earth too hard,
The passion that left the ground to lose itself in the sky,
Are music sent up to God by the lover and the bard;
Enough that He heard it once: we shall hear it by and by.—*Browning*.

ART EDUCATION IN THE PUBLIC SCHOOLS: ONE WAY OF LOOKING AT IT.

First Paper.

That the reader of this article may not be disappointed or misled, it is best at the beginning to make two statements:

First: It is not intended to give a historic view of the different subjects and methods in regard to art-instruction, nor to go into details of the topic, but to show in a rather limited space, that an efficient system of schooling can be built up only on the rational basis of the nature of the human being.

Second: By an allround education is *not meant* an education that teaches the child one thought, and to express this one thought through a smattering of different languages; that in arithmetic teaches the different rules for a long method, a short method, a business method, or a graphic method; that gives instruction in pencil, pastel, and crayon work, in water-colors, in oil and china painting, in embossing, and whatnot; not an education that comes from a slight knowledge of many things, but is only a veneering skin-deep; but by a liberal education *is meant* the education that thoroughly develops the leading faculties of the being through the most appropriate means and methods; that works in a rational way for thought-creation and thought-expression through tongue and hand; that recognizes the fact that the stanch edifice of social life must have a firm foundation of a thoroughly comprehended "multum," but not of a bewildering mass of "multa."

As a motto for this discourse I have chosen that soundest saying of Juvenal:

"Mens sana in corpore sano."

There has never been given to us a truer and a more important statement than this, and as its significance in the elevation of the human race is so far-reaching, it should be hung up in large letters in every school as the safest guide and best signal of warning. The most advanced and liberal minds regard education as the culture (development) of the healthy (normal) qualities of the human being individually, and of the human race collectively. Many educators differ from this definition, yet in the various expressions the leading idea always is, more or less, the welfare of the human being. If we put this welfare, representing the desired result of the educational scheme, on one side of an equation, the leading members on the other side of this educational equation consist of the child and the experience (teacher, school), thus:

child + experience (teacher) = welfare,
health, or in other terms:
biology + sociology = humanity,
matter + thought = monument.

Through this equation the truth will be recognized that the elevation of the race in general will be in proportion to the elevation of the two elements—child and teacher. If we wish, therefore, to raise education to a higher standard, both constituting elements must be taken into consideration.

I.—THE EXPERIENCE.

Experience may be divided into indirect experience, or second-hand (book) knowledge, and direct experience, or direct, or self-knowledge.

1. *Indirect experience.* Although direct experience is of primary importance, it would be wrong to undervalue the experience of the past. This cannot be too strongly emphasized, as only an acquaintance with the past will help to avoid mistakes and guide us in our experiments, thus saving time and energy.

2. *Direct knowledge.* In the mind of many a schoolmaster there exists the idea that everything can and should be learned from books. These people forget that real knowledge is not a product of book-study. Books are an outcome of sound knowledge chiefly gained through direct experimental work. What is the result of such book-cramming knowledge? Ask the instructors in institutions of higher learning; ask the practical business man and mechanic. They will give you almost without exception the answer, that they receive from the public and private schools plenty of bright pupils, well-crammed with book-knowledge, but unable to think for themselves, because they never have had a real chance to think. To understand books, to be able to judge and criticise any line of work, we must first acquire self-knowledge, we must first develop and strengthen the power of our organs, upon which direct observation and conceptions are based. The acquirements of proper direct knowledge are indispensable to the proper and uniform culture of the physical body. Physical and mental capacity cannot be separated. The organs with which we taste, smell, hear, see, assimilate, and create, are parts of a unity, and if we neglect the right developments of these organs we weaken the unit.

The agencies that are responsible for the education of children have this two-fold duty: First, they must see that the teacher brings to his work a liberal education; that he comes to his work in a good healthy condition, prepared in all the branches which the schools expect him to teach. Only when this is done, will teaching become easier, better salaries, in general, can be demanded, and the non-professional teacher be kept out of the schools. Second, they must create such conditions that the teacher will be able to grow. To this end the teacher must be furnished with time, material, and physical ability for his daily

preparation and the perfection of general culture. Teaching is one of those professions which react heavily upon the nervous system, and the general health. Use of energy means waste, and demands repair. If it is true that we should do everything to promote the health of the child, it is equally true that we must pay full attention to the health of the teacher. Or, is the teacher not a unit of spiritual and physical matter? Is the teacher excepted from nature's law, so that he never gets tired, never brain-fatigued? If we want good schools, we must first have healthy, well-nourished, and well-equipped teachers with a sincere and broadly educated man as superintendent, who is able not only to do office routine-work, but to give, at least, to the general teachers, general instruction in the branches taught. As the teacher, so is the school. It is astonishing to see how many school managers seem to lose sight entirely of this fact; otherwise they would not overburden the teachers with work, frequently of the most trivial nature; would not call meetings two or three times every week after regular school hours, thus destroying all love for the profession and lowering the standard of the work. High intellectual work calls for ample time to meditate and create; for daily fresh air and invigorating exercise.

From a child raised in a physically and intellectually vitiated atmosphere, what can one expect? Too often the teacher is blamed for poor work, while the *corus belli* lies somewhere else. Our schools would improve a hundred per cent. if not only the teachers, but also the members of the board, had to study and practice pedagogics, and if the schools were under superintendents of the broadest and best professional training.

Does the state do its duty? One cannot very well say yes; otherwise it would not be possible that in some states (Indiana as an example) any person, no matter what he is and what he knows, can be superintendent. Such conditions demand the immediate attention of the bodies of legislation. Mere office-seekers must be shut out. As long as the boss-system reigns all confidence in superintendents and boards of education is destroyed; moral distrust, the very underminer and enemy of all social progress and happiness, will prevail. Civil service reform must penetrate our entire school system.

The teacher is the most costly and most powerful apparatus in the school-room. If you neglect him, the element in our educational equation, which represents him, will get a minus sign, and the result of education be unsatisfactory or even pernicious.

What is said so far, has due reference to all the different subjects of the course of study. It has

reference to literature as well as mathematics or gymnastics, to science as well as art, and means therefore, if art-instruction shall bring its proper fruit, the teacher must be well prepared for his work, and his school-room must be furnished with the necessary apparatus. Art cannot be taught without this, and art has to be taught as one of the fundamental subjects for the sound development of the being.

In order to understand more clearly the different points which will confront us in discussing the second element of our equation—namely the child—the three leading systems of diffusing knowledge are given:

1. The classical, liberal, or humanistic, which aims chiefly at education through the study of classical and polite literature.

2. The special, or so-called trade school, which advocates education through learning of a special trade, as shoemaking, carpentering, weaving.

3. The practical, or modern school, which forms the logical union of the classical and trade school; that is, which advocates the development of the child through literature and manu-mental labor, which means not only the development of the interior organs chiefly through book-study, or the exterior organs through handicraft, but the development of both kinds of organs, the interior as well as the exterior through literary and practical manu-mental work of observation and creation.

If we keep well before us that education means the development of the whole being, that it means the rearing of a healthy organism which can face life as it comes, then the mistakes made by the first two schools are easily seen and understood. The practical or modern school is really the most liberal and deserves this name more than the classical school, as it gives the child the greatest and best opportunity for a healthy culture. It is liberal, as it takes the whole organism under treatment; and practical, as it develops the child through means which are rational; that is, which combine a great educational and practical value. The child nurtured in the true modern school is able to face life in a strong physical and mental condition. How impracticable and behind the times some of our schools still are, is shown by the failure of these schools, in spite of all other favorable circumstances.

In our next article we shall review these three school systems as we discuss the child-factor, and their influences, whether injurious or beneficial, will then be more fully understood.

On the next page will be found a program of the work in the La Porte High School.

FRED H. SIMONS.

LA PORTE, IND.

PROGRAM OF ART INSTRUCTION IN THE HIGH SCHOOL.—LA PORTE, IND.—1896-97.

I. PICTORIAL ART.	II. DECORATIVE ART.	III. CONSTRUCTIVE ART.
FIRST YEAR.—(IX GRADE.)		
<i>Pictorial Perspective.</i> Principles of perspective with illustrating sketches. Pencil Work from the Round: Wire Models. Type Solids, outline. Type Solids, light and shade. Still Life, outline. Human figure.	Still Life, light and shade. Still Life, time sketches. Flowers. Stuffed animals.	<i>Linear Perspective.</i> General methods. <i>Architectural Perspective.</i> <i>Lettering.</i>
SECOND YEAR.—(X GRADE.)		
<i>Water-Color Work.</i> In Winter from: Casts. Still life. Stuffed animals. In Summer from: Plants.	In Winter: <i>Ornamental Form Elements</i> (In charcoal.) Elementary Principles of Composition. Original designs. In Summer: <i>Plant-Analysis.</i> (In water-color, pen and ink.) From Nature, with original decorative sketches.	<i>Projections.</i> Orthographic projections. Sections. Penetrations. Developments. <i>Lettering.</i>
THIRD YEAR.—(XI GRADE.)		
<i>Principles of Light and Shade.</i> (In charcoal.) Work from the Round in charcoal, water-color, or pen and ink. Casts. Still life. Stuffed animals. Plants.	<i>Lectures on Designing.</i> Form and color compositions. <i>Practical Designing.</i> <i>Letterheads, Etc.,</i> For reproduction.	<i>Shades and Shadows.</i> Construction and Elaboration. <i>Brush Shading.</i> <i>Lettering.</i>
FOURTH YEAR.—(XII GRADE.)		
<i>Painting and Drawing.</i> (Work of Third Year continued.) <i>Original Compositions</i> In color (from sketches in black and white). In form and color.	<i>Practical Designing</i> In water-color. Pen and ink. <i>Letterheads, Etc.,</i> For reproduction.	<i>Isometric and Cabinet Drawing.</i> <i>Working Drawings</i> For Machine Elements and Architectural Work.
EVERY FRIDAY AFTERNOON.—(This is a mixed class of the different grades: In Winter: Sketching of Machine Elements with notes. In Summer: Out-of-Door Sketching.		

DAILY PROGRAM FOR THE ART CLASSES OF THE HIGH SCHOOL, LA PORTE, IND.

TIME.	PERIOD.	MONDAY.	TUESDAY.	WEDNESDAY.	THURSDAY.	FRIDAY.
9:00—9:40	1	XI Grade.	.....	XI Grade.	IX Grade.	XII Grade.
9:40—10:30	2	Pictorial Art.	.....	Decorative Art	Constructive Art.	Pictorial Art.
10:30—11:15	3	IX Grade.	X Grade.	IX Grade.	X Grade.	.....
11:15—12:00	4	Pictorial Art.	Decorative Art	Pictorial Art.	Pictorial Art.	.....
AFTERNOON.						
1:45—2:30	5	X Grade.	XI Grade.	XII Grade.	XII Grade.	Out-of-Door Sketching.
2:30—3:15	6	Constructive Art	Constructive Art.	Constructive Art	Decorative Art.	(Mixed class.)
3:15—4:00	7	.....	.....	.....	.....	.....

Every pupil taking the English course of study is obliged to take two of the three art branches. The pupil attends, therefore, two art recitations (each ninety minutes) each week. If the student has time, and is strong enough, he may attend the three art recitations of his grade, provided he does not neglect his other studies. The periods for the art classes are double periods (ninety minutes), although the time for the periods of the other studies is forty-five minutes. This arrangement of long periods is found to be the most satisfactory to pupils as well as teachers. The pupils accomplish more and better work in one long session than in two short ones, as they not only lose less time in getting ready for their work and in straightening up their places, but also enter better into the spirit of their work. Besides this, the general discipline and order of the whole school is improved, as not so much walking to and fro through the halls is needed, and thus less disturbance is created. This arrangement of long or double periods for certain work can be recommended to other high schools as it has given the greatest satisfaction for the last six years. Students who take the Latin or business course may join art classes if it does not interfere with their work.

THE VIOLET.

Certainly no flower is more familiar on American soil; possibly none is more universally beloved. The modest white, slightly fragrant flowers of *Viola blanda* are among the earliest to greet us in damp woodlands; others in various shades of white, yellow, violet or purple quickly follow, some of them prolonging their season of bloom throughout the entire summer. Of the hundred species known to exist in various parts of the world, almost a score are indigenous east of the Mississippi; several extend westward through the Rockies to the Pacific; and recent explorations in Alaska under the direction of the United States Department of Agriculture show that at least two species are found in our most distant territory—a species inclining toward the marsh violet being “abundant throughout the forest region” of Khantaak Island.

Few genera have boundaries so clearly defined; even the mere child who has once seen a violet seldom fails at once to recognize kindred species; and the garden pansy, a triumph of the florist's skill upon the European *V. tricolor*, reveals unmistakable family characteristics, despite its superior size and varied colorings. To those familiar only with the heart-shaped or *cordate*-foliage sorts, the deeply parted leaves of the larkspur violet (*V. delphinifolia*), or the divided ones of the bird-foot violet (*V. pedata*), might alone prove at first misleading; but with the appearance of the first blossom all doubt as to their proper classification vanishes.

The two general divisions of the genus are: 1. Stemless violets, with leaves and scapes all from a subterranean rootstock; 2. Those with stems more or less leafy throughout, and usually issuing from a short rootstock. Since violets have many traits in common, when the general structure of a single species is understood, others will be found to present few new forms, but rather, modifications of those already familiar. For the present study I have chosen the common blue violet, (*V. cucullata*), not that it possesses characteristics which render it preferable to other species, (in fact, few species in this or any other genus are subject to more frequent or diverse variations), but because of its extended range. It is found from Arctic America to Florida, and from the Atlantic to the Pacific. Thus, it may be readily obtained by most of my readers, and I shall assume that an entire plant is now before them.

The root is fibrous. The subterranean stem or *rootstock* is thick and fleshy, generously marked with scaly teeth. The latter are really undeveloped leaves, as is shown by the fact that new shoots frequently spring from their axils. The roots gen-

erally proceed from intermediate points,—*internodes*.

The leaves all seem to spring directly from the ground, hence are termed *radical*. They are borne on long ascending stems or *petioles*, each deeply channeled along the inner side. At the base are two small and thin leaf-like appendages termed *stipules*. The leaves are simple, and vary to a remarkable degree in shape, all the intermediate forms between the typical *reniform-cordate* through *ovate* and *deltoid* to *hastate* being freely represented. In each modification is retained the full, hooded base to which the specific name (*cucullus*, a hood) is traceable. The margins are obtusely serrate; and the surface varies in individuals from smooth to downy or *pubescent*. The veining is prominent, especially on the lower surface. All of the larger veins arise from the union with the stem or *base*, and extend on either side after the *palmate* plan,—the numerous ramifications and intersections of the veinlets showing the net-veined or dicotyledonous nature of the plant.

The flowering scapes are little shorter than the petioles, and present a pair of small, rudimentary leaves known as *bracts*. The calyx consists of five light green lanceovate sepals, each with a small appendage at the base termed an *auricle*. The petals, also five in number, alternate with the sepals, and vary in form, size and coloring. The two upper ones are alike, and show very little shading, save that they are nearly white at the base; though the ground color varies in different plants from rich purple to violet or nearly white. The lateral petals are narrower, less symmetrical, conspicuously veined with dark lines, and thickly bearded at the base. The lower petal is still more distinctly veined, and is prolonged into a spur that extends back between the lower pair of sepals and forms a neat receptacle for nectar. It is worthy of note here that all of the beautiful markings of the petals point as directly as the hand on a guide-board to this store-house; and we have reason to conclude that while they please the human eye, they tickle the palate of the insect guest by their service as “honey guides.”

The stamens, also five, have broad filaments prolonged beyond the anthers, which are joined to their inner face; thus the anthers are said to be *adnate* and *introse*. The two lower stamens are each provided with a horn-like appendage which projects into the spur—its function being to secrete nectar. The filaments cluster in a close ring around the style, *connivent*.

The pistil consists of three parts; the ovary is not five-sided, as we might expect from the pentamerous nature of the parts previously studied, but is somewhat triangular in outline; a transverse

section shows it to be one-celled, with three parietal placentae; the style is slender. The stigma is hooded, and as the orifice is on the lower side, it requires no great stretch of imagination to liken it to the inverted bowl of a pipe. This arrangement may be more clearly seen in the garden pansy, as the parts are larger.

And now as to the practical application of this delicate floral mechanism: A winged visitor, attracted possibly by the gay corolla, alights upon its lower lip, which forms a very inviting threshold,—in fact, the only one practicable; for the dense beard on the lateral petals obstructs entrance from either side, while approach by way of the nearly vertical upper petals would require more acrobatic skill than even a bee cares to indulge in unnecessarily, besides being an indirect route. By thrusting a hairpin into the spur we can closely imitate the action of the bee's proboscis. The anthers are pressed apart and some of the pollen from them clings to the bee's downy coat. When it emerges, however, the narrow lip which projects beneath the stigma prevents it from touching the latter. But when the bee enters another flower the first thing it comes in contact with is the stigma. Thus, pollen is carried from flower to flower.

It would seem that with such an elaborate construction for cross-fertilization, self-fertilized flowers would be extremely rare. On the contrary, they are plentiful and furnish most of the seed. As the season advances the gay flowers (which are really unproductive) are replaced by small apetalous ones which never open, but produce an abundance of seed. Thus, it is evident that they are fertilized in the bud. It would seem that Dame Nature, fearing lest her most showy floral offerings should be so freely gathered as to hazard the perpetuation of the species, has thus guarded against such danger by the device of inconspicuous seed-bearing ones.

This plan of fertilization in the bud, *cleistogamy*, is not uncommon,—other familiar illustrations being found in the oxalis and impatiens. Gray says in his *Structural Botany*: "It has been said that the ordinary flowers in such plants are sterile, and perhaps they always are so except when cross-fertilized; in most cases they are habitually infertile or sparingly fertilized. Probably they suffice to secure in every few generations such benefit as a cross may give, while the principal increase is by cleistogamous self-fertilization, which thus offsets the incidental disadvantage of the former mode. Darwin says in his *Forms of Flowers* that the petals of cleistogamous flowers "are rudimentary or quite aborted; their stamens are often reduced in number, with anthers of very

small size, containing few pollen grains, which have remarkably thin transparent coats, and generally emit their tubes while still enclosed within the anther cells; and, lastly, the pistil is much reduced in size, with the stigma in some cases hardly at all developed. These flowers do not secrete nectar or emit any odor; from their small size, as well as from the corolla being rudimentary, they are singularly inconspicuous. Consequently, insects do not visit them; nor, if they did, could they find an entrance. Such flowers are therefore invariably self-fertilized; yet they produce an abundance of seed. In several cases the young capsules bury themselves beneath the ground and the seeds are there matured. These flowers are developed before, or after, or simultaneously with the perfect ones."

We have heard so much about the advantages of cross-fertilization, and seen so many skillful contrivances for securing it, that the query is at once suggested, Why a device for the reverse? Dr. Gray gives the following pertinent paragraph in his *Structural Botany*: "Fully to apprehend the economy of cleistogamy in pollen-saving alone,—and contrariwise to estimate the expense of intercrossing,—one should compare the small number of pollen grains which so completely serve the purpose in a typical cleistogamous flower (say 400 in *oxalis acetosella*, 250 in *impatiens*, 100 in some violets) with the several thousands of all entomophilous cross-fertilized flowers, rising to over three and a half millions in the flower of a peony, also their still greater number in many anemophilous blossoms. To this loss should be added the cost of a corolla and its action, also of the production of odorous material and of nectar. No species is altogether cleistogamous. Thus cleistogamy, with all its special advantage, testifies to the value of intercrossing."

Note the points of similarity between the pansy and blue violet; of difference. Is the former cleistogamous? In what respect does it seem better equipped for fertilization by insects? Note the variation in shape of spur in the different species of violets. How are the seeds disseminated? What military leader chose the violet for his emblem?

BESSIE L. PUTNAM.

HARRISBURG, PA.

CORRELATION AND NATURAL SCIENCE TEACHING.

The questions asked in the editorial on "The Story of a Boulder" in the March number of THE INLAND EDUCATOR, are excellent and valuable. They are excellent because they call for the use of various methods employed in the natural sciences; they are

lead to a comparison of the results obtained by using the different methods suggested in that editorial.

The discussion of the boulder story may be left, very properly, to students of geology and geography. However, the general conclusions regarding the proper method of presenting any one of the natural science subjects should be applicable to all.

The editorial asks, among other questions, "Is the correlation of science, literature and poetry, advocated by so many eminent educators, any real help to children or to anybody else?" To treat this question intelligently one must know whether correlation is defined in the manner adopted by many of the American interpreters of Herbart's teaching, or in the way set forth in the report of the Committee of Fifteen. Few, if any, science teachers deny the value of correlation as defined by the latter, but there are many who vigorously protest against the use of that kind of correlation which dictates a superficial grouping of subjects. These protestors object to such correlation in science teaching because it recommends the introduction of myths and erroneous statements found in so many delightful legends and beautiful stories. However, if correlation, in this latter sense, is conceded to be valuable with children in the primary department, why is it not desirable to extend its use to the work with pupils of higher grades, and even employ it in directing college students and original investigators in science subjects? If it is urged that this presses the correlation principle too far to what stage shall its use be limited, and why place the restriction on so helpful an agency at the point proposed? If it is believed that this kind of correlation should extend to all grades of science instruction, one must admit that all of the distinctively scientific scholars have missed the ideal method in prosecuting their own work and in directing that of others. Scarcely an example can be given of any great scientist correlating his science, literature and poetry either in his own studies or those of his students. One can not deny that some men have won distinction both in science and literature, but he can deny that the scientific excellence was achieved by a general mixture of myth and fiction with the truth obtained first-hand from nature.

Gray and Agassiz were the two great pioneers in biological research and instruction in the United States. If we accept the reports of those who received instruction and inspiration from them, we need have no doubt regarding their methods of science teaching. These men taught that truth was the chief object of search, and that it was to be attained certainly, only by excluding all sources of error. To that end they and their disciples,

who occupy the foremost positions of instruction and investigation in this country, used the inductive method. While they advocated this method "pure and undefiled," they did not object to certain modifications, nor hold that accurate illustration and demonstration of nature by the instructor of primary pupils were inconsistent with the inductive method. They rather contended that such instruction (i. e., by illustration and demonstration) in the lower grades was the logical extension of a method which had proved itself most helpful with science pupils of more advanced training.

What is said of these masters in the department of biology applies to the leaders in all of the departments of natural science. It is safe to affirm that no one has ever heard a teacher of recognized merit and achievement in any one of the natural sciences, advise a departure from the inductive method in kindergarten science work, or in the more advanced stages of high school and college training. On the contrary, these teachers have placed the value of myths and strained rhetorical figures in nature-study in the category of reasoning by analogy, regarding scientific subjects, which receives their severest criticism and universal condemnation.

The little myth which states that the red feathers on the robin's breast were given as a memorial to the persistent efforts of this bird to pull the spikes from the hands and feet of the crucified Lord is a beautiful story, and well adapted to cultivate the imagination. But of what educational value is it in explaining the selectional principles underlying the colors of all birds? Possibly it is pleasing to the imagination to fancy that a striking resemblance exists between the germinating seed of a bean or pea and a restive brownie. But of what value is this fanciful comparison in teaching the pupil that a cotyledon is simply a modified leaf? And yet these two examples have been chosen from a class of stories which furnish a large amount of material to some teachers of nature studies. This class of instructors defend the introduction of such tales on the ground that they are necessary to arouse the child's interest and hold his attention. They assert that natural science subjects are dry and cannot be made attractive to the little people, therefore should be enlivened by myths and poetic fancies. The adherents to these views show that they have no proper conception of the natural sciences. They do not know that nature studied first hand, and in a living rather than in a dead way, is quite as fascinating as any poetical myth, because it stimulates the imagination just as actively, and has the added attraction of representing a reality which appeals to the senses and the reason as well.

The diversity of opinion as to whether myths and pleasantly related falsehoods should have a place in nature-study emphasizes the fact that there are two quite distinct classes of teachers of natural science in the educational world. So far as can be determined that class of teachers which contends that myths and poetical statements have a place in natural science teaching is composed of those who have studied very little science under instructors of limited training, or else they are self-educated, with only the aid afforded by a "fourteen weeks" course in botany, zoology, geology, etc., and have not mixed this brief training with a great deal of reason. It is hardly to be expected that people with such preparation could themselves have a clear comprehension of the inductive method, much less adapt it to the instruction of children. They can not appreciate the necessity of making all nature-study a clear and earnest search for truth, a means of cultivating and developing the child's power of discrimination between real and apparent causes and their effects in nature.

The class of educators who would exclude the errors of myth and fiction from nature-study is composed of the advanced investigators and teachers of natural sciences, and those who have trained under them. They object to the introduction of these tales because they know from observation and experience that they are irrelevant, and, so far as they occupy the thought of the pupil, they prevent his perceiving the logical order of events from cause to effect in the various phenomena studied. These teachers are convinced that students whose early science training has been mixed with these fanciful tales are inclined to observe facts superficially and to distort the conclusions based on their incomplete observations in order to harmonize them with preconceived ideas gained from some fictitious statements in song and story. This class of instructors would hold to the pure science methods in elementary as well as in advanced work, because they believe that uniform methods of science study tend to an economy of time and energy: Students who have been prepared for advanced science studies by false methods must be subjected to a severe pruning process before their minds are in a proper condition for reputable science work. This period of reducing and transforming represents a loss of time which must be added to the loss of mental power resulting from the early training in an artificial instead of a natural way.

The adherence to strict science methods in studying the natural sciences does not imply that the elements of beauty and imagery, which are brought forth and nourished in the minds supplied with

pure poetry and fiction, should not have a place in educational work. It simply affirms that old truth—"to everything there is a season." And it protests against those methods which lug myth, poetry and fiction into science work in, or rather out of season, for it holds that no season exists for mixed methods of nature-study.

It is believed that correlation of subjects to be studied is not necessarily adopting the same method of study for all subjects, much less is it a conglomeration of material, chosen from all subjects, in the study of some one, particularly if that one is nature-study.

The application to our courses of study of the correct kind of correlation will mark, unquestionably, a great advance in our educational affairs, but an attempt to press this principle of correlation, wrongly interpreted, so far that it includes the introduction of mythical stories and errors of fiction into the study of any natural science subject simply brings the name of an excellent servant into disrepute. From such enthusiasts *true* correlation should pray for deliverance because natural science work would be vitiated whenever and wherever the pseudo-correlation principle were applied.

The great problem of bringing secondary schools and colleges together will be solved when educational subjects are properly related, and correct educational methods prevail in each series of subjects comprising the courses of study in kindergarten, grade, high-school and college work.

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THE INDIANA ACADEMY OF SCIENCE.

The annual field meeting of the Indiana Academy of Science was held at Lafayette May 26-28, with an average attendance of forty members. The days were spent in excursions to the Tippecanoe Battle Ground, Fort Ouiatenon and the bluffs, ravines and terraces of the Wabash valley. On Thursday evening Professor Frederick Starr of Chicago University, lectured before the academy in the Hall of Purdue University on "Dress and Ornament." Professor Starr is a master in the subject of anthropology, and has a happy manner of insinuating his ideas into the minds of an audience without arousing opposition. His address very nearly attained the ideal of what a popular scientific lecture should be. The following are the main points presented:

The speaker began by saying that he might present views which would be new to most of his audience, and perhaps contrary to their previous preconceived opinions. But it was no part of

ject to convert anybody. It was a matter of no importance to him whether people agreed with him or not, if only he succeeded in awakening thought. There are three possible explanations of the origin of dress. Probably most people would say that dress came into use as a modest covering of the body from the gaze of others; or it might be said that its original purpose was protection from the weather, from the contact of rocks and bushes and from enemies. His own opinion was that dress originated from ornament, in the instinct for distinction from other people. All primitive peoples expend much time and labor, and even endure severe pain for the sake of adornment. The modifications of the body produced for purposes of beauty, as the victims regard it, are of four classes: those produced by puncturing, by bandaging, color decoration and hairdressing. The practice of puncturing prevails widely in great variety. The ear presents a favorable organ for this process. It is punctured, not only in the lobe, but with a series of holes all along the margin in which are inserted plugs and rings of many kinds. It is often slit nearly its whole length, and weighted with rings until the lobe hangs down upon the shoulders. In Central Africa puncturing of the nose and lips occurs. Studs or plugs of wood or metal are worn in the holes which are often of great size. Many wear rings in the upper lip; thus, when an African belle smiles her upper lip ring turns up so as to surround her nose and cheeks like a frame. Among savage tribes gashes in various parts of the body are much in vogue. The mother attends to the gashing of her infant with as much care as the civilized mothers attend to their cleanliness and dress. The cuts are made with a stone knife, and wood ashes are rubbed into the wound to produce a welt or scar which is permanent and stands out like a great wart. These scars are sometimes very numerous and upon various parts of the body, but the favorite locations are upon the forehead, nose and face. Probably Cain had such a mark set upon his forehead. The particular number and arrangement of these scars constitute insignia which mark the individual as belonging to a certain tribe. Tattooing is a development of this form of ornament, and sometimes covers the whole body as with a lace-like garment. Among the Maoris of New Zealand it was very elaborate.

Bandaging is sometimes applied to the feet, as in the case of Chinese women, sometimes to the head. The Flathead Indians inclose the baby's head between two boards so that it grows into the shape of a wedge with the narrow end up. Others compel the head to elongate backwards or upwards.

Color adornment is very common, either in the form of paint applied to the skin, which is occasionally renewed, or in connection with tattooing where the color is pricked in and becomes permanent. Some Japanese are completely covered except as to the face and neck with colored tattoo patterns. A second general method of adornment is by bands around various parts of the body to which objects may be attached. The most available localities for these are the arms, legs, neck and waist. The various forms of bracelet, anklet, necklace and belt are extremely numerous. They sometimes cover the greater part of the arm or leg and weigh many pounds; but on the whole, the safest and most convenient places of attachment are the neck and waist. Upon these neck and waist bands are hung a great variety of articles which the wearer regards as adding to his attractiveness or distinction. Here the warrior displays the scalp, head or weapon taken from his enemy—the hunter, the feathers, tails, teeth or skins of the animals captured in the chase. Thus, the necklace and the belt with their appendages come to cover the greater part of the body, and develop into the cape and the skirt, without which the savage feels as uncomfortable in public as a modern gentleman without a necktie.

The simplest form of garment is a piece of cloth worn over the shoulders or head like a blanket, and held in front by the hands. This is made more convenient by fastening it together along the under side of the arms, thus producing a sleeve. It was a long step forward when somebody cut a slit in the blanket and slipped it down over the head. This was the first form of the jacket, blouse, or waist. The blanket over the shoulders was inconvenient for work, because the arms and shoulders were not free; so the custom arose of folding the blanket, wrapping it around the waist and tucking the end in. The falling parts of it before and behind were fastened between the legs, and thus the trousers and the divided skirt came into existence.

The lecturer illustrated the evolution of these forms by dressing up several boys.

The evolution of head covering was shown by the use, first, of a piece of cloth thrown over the head, drawn back from the face and fastened behind—a form still used by the housemaid when sweeping. A separate string or band was used to hold the cloth around the head, which finally became highly ornamental, and still survives in the hat-band, which is often neither useful nor ornamental. The bow upon the left side was explained as the rudiment of the ornamental cockade which was worn upon that side because it was there out of the way of the sword flourished in the right hand.

If dress originated in a universal sense of modesty, all peoples ought to have the same ideas as to what is modest, and the people who are most dressed ought to be most modest; both of which are contrary to the facts. The Moslem woman is satisfied if only her face is covered, regardless of what other portions of her body are exposed, and the Japanese women, who have no sense of modesty whatever, conceal their figures completely. To many millions of women the appearance of the ladies at a full-dress ball or reception in Chicago would seem the very height of immodesty—an opinion in which the lecturer fully concurred.

Dress has developed into two great types—the northern and the southern. In the harsh climates of the North, garments are relatively close fitting and consist essentially of the cap, the jacket, the trousers and the boots. This type is characteristic of both sexes among the Esquimaux. It is best fitted for an active and vigorous life. In the mild and balmy South, garments are relatively loose fitting and flowing, exemplified in the turban, the toga, the gown, the skirt, the loose trousers and the sandal, as worn now and always in oriental countries. When the Roman Empire was overrun by the Northern barbarians these two types of dress came into conflict, with the result that the men adopted the northern type as best adapted for the active duties of life, while the two most conservative classes of society, the women and the priests, retained the loose, flowing type of the South.

After the lecture a series of lantern slides was shown to illustrate the whole range of topics discussed.

C. R. D.

OXYMEL.

What is a vast deal of so-called *tact* in school (as elsewhere), but cajolery, pure and simple; an appeal to any thing but the higher nature! An instance comes to my mind.

In a certain large school, the teacher whose duty it was to "form the lines" in the yard when the bell rang, was annoyed exceedingly by the dilatoriness and general lawless bearing of a clique of girls from one of the higher rooms. At last she called them to her and delivered herself substantially of the following:

"Girls, the actions of such influential pupils as you pupils whose parents occupy the place yours do in society, are bound to be copied by those not so high in the social scale. It rests with you, therefore, whether there shall be the order I wish in the lines or not. And now that the importance of your demeanor has been brought home to you,

I trust and believe that there will be a great and decided change."

The talk had the desired effect for the remaining short period of the year, at least. Self satisfied, puffed up with imaginary importance, the girls "fell into line" with pompous docility. The result, so far as the school went, was undeniably good;—but what of the effect upon the girls, themselves? Some words from Margaret Fuller's journal, kept while teaching in Providence, Rhode Island, come to my mind. I cannot but contrast their spirit with the spirit of the exordium just chronicled. She says:

I will write a short record of the last day at school. * * * Then I summoned the elder girls. * * * I assured them of my true friendship, proved by my never having cajoled or caressed them into good. * * * I had appealed not to their weakness, but to their strength; I had offered them always the loftiest motives, and had made every other end subservient to that of spiritual growth.

* * *

Speaking of higher motives, I am reminded of an incident related in a Sunday school paper which I chanced to pick up the other day. It was in regard to a child who had done a kind act for an old lady, involving some slight degree of sacrifice to herself, and who immediately thereafter had burst into tears, saying that she would not care if only she could be sure that the king would know of it and be pleased, but that it was such a little thing that she feared he would not know of it at all!

"What sort of spiritual pabulum must have been fed to that infant?" I asked myself. "Right for the sake of right, the upbuilding of the soul for conscience's sake,—what trace of it here?" I thought of Ruskin's words to the young girl who, in answer to his query as to why she had done a certain unselfish thing, replied "I did it to please Jesus." They were:

Remember, my little friend, that nothing you could do would ever really please the Father unless it would have been done just the same had there been no Father.

* * *

"The friends I wait are waiting me." Once I was not sure of this. I thought in my narrowness of vision, that it savored somewhat of the mystical, not to say, the "predestined." But surely nothing truer was ever said.

Enter a community a stranger. How long does it take you to "know your own?" Go to distant parts of the world. You will meet with such congenial souls that you will think, "What if I had not come! * * * What a loss I should have sustained!" But noble and congenial souls are everywhere, as are the petty, and the base, and the trivial; and according to the class to which

you belong, will you surely gravitate. The law is inexorable.

* * *

The editor of an educational journal blithely and debonairly flings out the following as an addendum to a request for the names of books helpful in school work, "*Give prices if possible, as teachers have been known to hesitate upon this trifling point before purchasing books.*" In the face of the starvation wages paid teachers generally, one wonders if that editor ever taught, and was, perchance, a "common sub!"

* * *

Free access to the realm of imaginative lore is the inalienable birth-right of every child. What can make up to him for the loss of fairy-winged hours within its magical borders? For the loss of that unique culture which prevents him in after years from invariably sticking to the proposition that *three and two make five*? Nothing! If there could, many would there be to-day who would be conscientiously trying to metamorphose themselves. Richter says:

Train the imagination and the child can play with himself. A doll is to him a nation or a company of actors and he is playwright and director. Every bit of wood is a flowering rod on which fancy can bud hundred-leaved roses. The plaything, itself, becomes indifferent if a happy imagination be present; and this is as true of men as of children, whether it have reference to a crown of gold or of laurel, shepherd's crook or marshal's staff, the fall of war or of agriculture. In the eyes of wonder-working fancy every Aaron's rod blossoms. Then train the imagination.

* * *

AN INCIDENT.

A woman there was who was wealthy, wise, and, moreover, kind hearted. One day it chanced that she seated herself on a bench in a public garden. A woman who sat opposite thus addressed her:

"Pray, madam, why do you wear such a thin dress, or why, wearing it, do you sit down here? Do you not know that there is great danger of taking cold? And you have, I perceive, a book open, ready to read, of a miserably fine print. Do you not realize that such print will ruin the best eyesight in the world? And your eyes are not first rate, I should judge. It is criminal carelessness! There is positively no excuse for it, when clearly printed matter of every kind can be obtained so cheap now! But it may be there are reasons why you do not care to spend—"

"By what right," demanded the one addressed, "do you presume to dictate to me what I shall wear, or what I shall not wear, or what I shall or shall not read? Or make remarks or insinuations regarding my personal defects or my private, pecuniary affairs?"

"By the same right," replied the other calmly, "that you take it upon yourself to interrogate, advise, reprove those with whom you come in contact, provided, only always, that they are *poor*. Have the self-respecting poor no rights which you are bound to respect? No susceptibilities to be outraged? No feelings of delicacy in common with the rich? Is there no repugnance in their hearts to being catechised as a child, and their private affairs dragged before the curious and censorious eyes of a stranger? Then accord to those whose only misfortune is their poverty, madam, the same consideration which you exact for yourself."

* * *

A controlling purpose in the young is of paramount importance. When such a purpose has mastered a youth, he has a helm and rudder, sails, and wind for his sails.

* * *

IMMORTALITY OF ANIMALS.

The wish that of the living whole
No life shall fall beyond the grave
Derives it not from what we have
The likeliest God within the soul.

When I see a poor, tired, over-driven horse straining every nerve to start an up-piled wagon while the blows fall thick and fast,—when I see a forlorn, lost dog gazing about with pathetic eyes,—when I see a bedraggled cat maltreated by cruel boys,—when I see one after another of the different phases of the tragedy of brute life continually enacted about, my heart bleeds and I say to myself—

"Human beings can struggle on and rise above their environment. They have opportunities to throw off the shackles of circumstances; but dumb animals, no. Then can we,—dare we say that this life is their all? That the all-kind, all-seeing Father heeds not their faithfulness, neither their agonized cries nor dire distress?

Ah, how can we but trust—

That nothing walks with aimless feet,
That not one life shall be destroyed,
Or cast as rubbish to the void
When God has made the whole complete!

* * *

"The state must not go back to the psychological, ethical genesis of a negative deed," to quote from one of our old-time pedagogies,—*but the teacher must*. In the uprearing of the tender, budding mind, in the guiding and admonishing of the child, *the motives are everything*.

Do we think enough of this?

ELEANOR ROOT.

BOSTON, MASS.

THE EARTH-CHILD AND THE TWILIGHT BELL.

Once, many years ago, when the little earth-children were not so worldly-wise as they are now, there lived a boy named Bertrand. This child had a quaint and happy little way of finding truth in many things upon which his play-fellows looked with unbelieving eyes. He was always peering into the darkest nooks of the forest in search of fairies, and every tree, flower and bud was a source of interest and wonder to him.

Bertrand's home, though in the country, was near a great city, in which was a grand and beautiful cathedral. There was a school hard by it which he attended. Bertrand was a choir-boy, and most of the boys in his school were choristers, although a few other children were admitted. While at play, or sitting in school with tumbled locks and studious face, intent upon his books, Bertrand was not a child upon whom one would look with any unusual interest. It was only when the long and weary day was done, when books and papers were neatly laid away, and the beautiful chimes of the cathedral rang out the twilight hour, that he became in a measure different from other boys. It was then that the refractory golden locks were carefully brushed into place; then, that the frowns and puckers which sometimes marred his face, were all smoothed away; then, that he donned the long black robe and snow-white surplice and with anthem-book in hand, marched slowly into the cathedral with the other choristers.

It so befell that his seat was placed where the last rays of the setting sun streamed through the rose-tinted windows and lay in a soft red glow upon his head. He had a little way, all his own, of forgetting himself and everything which was about him, and throwing his simple, childish soul into the beautiful music of the anthem. And so, with his lustrous, brown eyes lifted reverently upward, and the sunset glory shining on his boyish but noble face, he became such a vision of strength and beauty, as any artist might fitly have copied for an embodiment of the Christ-Child.

But the people who day by day came and knelt in the cathedral did not know that Bertrand was beautiful. They looked at him as they looked at the bending sky above, the fields stretching away and away, or the dew upon the flowers. To their stupid and unseeing eyes there was no beauty in any of these, because they were but common things, parts of their daily lives. Thus, it was, that if the villagers only had visited the beautiful cathedral, you and I should not have known of

Bertrand, nor should we have heard the story of the twilight bell.

But, one time, just as the choir had sent a glorious "We praise Thee, O Lord," ringing through the mazes of the old sanctuary; when the glory around Bertrand's head shone brightest; when he thought least of self and most of God; a stranger entered the door and looked upon him. This man had wandered all over the world seeking the beautiful. Feeling that he had found the object of his search, he painted Bertrand's picture and carried it away into his own country. The noble helpful face of the child brought joy to great numbers of people, and many copies were made of the picture. One of these last, a little medallion, fell into the hands of a young woman who was so ill, that she might never rise from her bed again. The medallion was placed where she might always see it, and there was something in the little chorister's face that made her feel patient and strong.

It was during the sittings for this picture, that they two, Bertrand and the artist, first spoke of the twilight bell.

"I love to hear it ring," Bertrand had said, "because it always means that the busy day is done, and that the quiet and rest of night have come."

"But why, indeed, should you not love the day; you, a child who can know neither care nor sorrow?" the artist asked.

"The day has many sorrows for me," Bertrand replied; "the master who is always cross, the Latin, which I do not like, and problems, long and difficult."

"He who is stronger than his foe fears him not," the artist replied; "when you have mastered these difficulties you will no longer shrink before them."

Just then the chimes of the cathedral again pealed forth their vesper strain. When the sounds had ceased, the man turning said:

"When I was a child, I heard a strange, sweet story about a twilight bell in heaven. Each evening when the darkening shadows fold the earth in their soft pinions, a great bell swings to and fro in Paradise, and with a far more glorious music than any of earth, it marks the end of day for the children of men. In heaven there is no night, neither any darkness at all, so when the great bell rings, the heaven-children pause to say: 'It is night in the great world below, and the little earth-children will cease their tasks and go to peaceful rest.' And then through the gates of pearl, a troop of winged cherubs fly to guard the beds of the little earth-children. They also carry those who have fallen by the wayside, unable to

bear the burdens of their little lives, to their everlasting rest."

"O kind sir," said Bertrand, "have you ever heard this twilight bell?"

"Alas! no, dear child," said he, "no earth-child may hear it who does not first put from his heart all passion, pain and strife, all hatred, all thoughts of wicked things, and every heart-ache and weary-longing. Then, only, may he hear the twilight bell of heaven; then, only, feel its music in his soul; for its sounds cannot be heard of mortal ears."

Bertrand thought much of what he had just heard, so much indeed, that he grew dreamy and listless. The Latin became daily more disagreeable, the problems harder, and the master seemed crosser than ever. From having the story so constantly in his mind, he finally grew to desire, more than all else in life, to hear the twilight bell of heaven. The artist had gone away, and there was no one to help him, but he rightly thought that one way to make the heart pure was by saying many prayers. So every evening he knelt in the old cathedral, with a soul listening for the divine symphonies of the bell. His face grew more radiant than ever in the crimson glow of the twilight, for he listened intently during the service, lest the bell might ring. He was haunted with a fear that he might not be attentive at the right moment, so he came early and stayed late, kneeling for hours before the altar. He even at times went forth into the fields and woods, and listened earnestly for the heavenly strain. But no sound of the twilight bell ever came to the soul of the child.

At last, one evening, kneeling in the cathedral, his little heart could bear the disappointment no longer, and he burst into an agony of tears. It was then that the master found him and inquired the cause of his grief. And amid his sobs Bertrand told him as best he could.

"You wish to hear the bell of heaven," replied the master. "To this end you pray much. That is well. You also daily lose your temper, strike your playmates and neglect your work. This is not well." And saying thus he passed on, for he was an unfeeling man.

Bertrand went home with downcast eyes and sad step. After that, though he still sang in the evening service with a face as radiant as ever in the sunset glory, he no longer knelt to listen for the twilight bell. But for all that he had not forgotten it.

"That bell shall ring for me some day," he said, and this purpose filled all his life.

* * * * *

The years passed on. It was the holy twilight

hour, which should bring rest to all mankind, but on earth there was no peace. The long, crimson shafts of light fell on a battle field, and redder grew as they shone on streams of blood, or turned to gold on the poor, pale faces of the dead and dying. The twilight bell of heaven will ring, but who on earth may hear, amid this awful strife and carnage? A soldier painfully wends his way over the masses of the fallen to the seclusion of a little wood near by. And there, all alone, tired and wounded, he kneels and listens for heaven's bell. And the golden glory falls caressingly on his upturned face, the same noble face the sunbeams used to kiss in the old cathedral so long ago.

The bell of Paradise might not ring for the little choir-boy, with pleading eyes and simple, childish heart, but surely the hosts of heaven will make sweet melody to soothe the soul of a hero. Bertrand clasps his hands, not in the simple supplication of childhood, but with all the impatience of man, and listens with glad assurance. He feels that the hopes and longings of his life are to be this night fulfilled. He shall hear the bell, for is not the praise of his brave deeds on every lip? His cheek flushes with pride—and then the happy look fades away from his face, the sunset glory is gone, and he lies helpless in the cold and sombre twilight.

The bell of heaven may not ring for a soul in which dwells pride. Hope is stronger in the heart of the child than in the heart of the man, but as of old, Bertrand once more gives expression to the heroic words of his boyish resolve—"That bell shall ring for me some day." Glory and honor could not bring to him the sweet sound of the bell, so he left the busy haunts of men, and returned to the home of his childhood, there to live a quiet and peaceful life. The time came when his days were no longer filled with unkind deeds, when he had overcome his evil temper, loved even his enemies, and filled his heart with pure and noble thoughts. He daily wandered beside the brook or forth into the field or forest, listening to the song of the bird or the music of the water. He thought that by loving God's works he should thereby love God, and loving Him, his soul would become holy enough to hear the bell. But the fullness of peace had not as yet come to him, nor had he heard the twilight bell. It was, after all, a little child who led him into the truth. Once, as he wandered lonely in the forest, he lifted up his soul in one last, long agony of supplication, "Show me Thy ways, teach me thy paths."

How long he might thus have prayed no one can say, if the bushes had not at that moment been parted by a little lad who was digging ferns. His little bare feet were torn and bleeding from the

stones, his scant clothing rent by thorns, his body weak and trembling from hunger, and he was crying because no one loved him. He had made his painful way from the city near by, hoping to procure fern roots in the woods which he might sell for food. He was a very little child, as young as many of those which fond mothers clasp to their bosoms, bestowing upon them the caresses due to babyhood.

When he saw Bertrand he held out both his little hands, while his lips quivered and tears coursed down his cheeks. Bertrand took the child in his arms and in his pitiful, but precious burden, found all for which he had prayed and hoped and longed. By the rivulet's side, or in the shade of the forest he had learned to be good; in the misery and sin of the city he was yet to learn to do good. In the city of the cathedral a sad wail had long gone to heaven from the little Children of the Poor. There were thousands of them crowded into dark and narrow courts where the light and sunshine could not come, where they lived and died, neglected and unloved.

It is not so much that one heart and life can do, yet after all, it is a great deal. Henceforth there was often a strong and noble face to be seen in the loathsome courts, the very sight of which made the wicked ashamed of their base deeds, and inspired little children to grow into good and useful men and women. It was often seen, too, in the haunts of more fortunate mortals. A silent but powerful force worked on the hearts and consciences of men until a great change took place in that city. In the stead of old and rickety tenements, and dark and dingy courts there came to be houses and parks and schools. There was the chapel as well as the cathedral. The people of the city were perhaps as unconscious of Bertrand's beneficent influence in their lives as they had been of his childish beauty so long ago. But they loved him dearly, and the angels knew.

* * * * *

Twilight in a grand cathedral, twilight on a battle-field, twilight where earth and river and sky proclaim the glory of God, and yet no sound of heaven's bell.

A child, innocent and fair, a youth wearing the laurels of victory, a young man who has conquered self, listening for the twilight bell and hearing it not.

An older man and a group of poor city children, strolling in the green fields, underneath God's blue sky. The children beg for a story, and their good kind friend tells them of the twilight bell.

Then the one who walks nearest him, whose little hand he holds, looks up and asks timidly,

"Good sir, have you heard this bell of heaven ring?"

He answers her not in words, but by the smile upon his face and its enduring peace and calm, he makes her little child-heart to know, that not only at twilight, but always, the bells of heaven make sweet melody in his soul.

ROSE MARTIN.

MUNCIE, IND.

THE "RIGHT TO WORK."

The ugliest fact that confronts us under our present industrial organization is the fact that, at almost any given moment, there are in this country hundreds of thousands of able-bodied and honest men, with women and children dependent upon them, who would be glad to work steadily every day, yet whose one great anxiety in life is because their employment is uncertain, interrupted, or wholly precarious. The old-fashioned economists have hated nothing so much as the doctrine of the "right to work." But it is just possible that this doctrine may make its way, not only as a theoretical tenet, but as an insistent practical proposition that cannot be put down. The inequality of condition between the very rich man and the ordinary citizen, who has the opportunity to work steadily for standard pay, is a matter of slight concern, comparatively speaking. The seriously disturbing factor is the existence of a shifting but never-disappearing element of men unemployed or only half employed. The situation of the great army of workers in the clothing trades who live in the east side tenement district of New York, and who have just brought to a successful end an enormous strike, has been distressful enough to win a deserved public sympathy; for these men have worked almost incredibly long hours for an almost incredible pittance. Nevertheless, most of them, even under these hard conditions, are more comfortable than they were in the Polish towns that they came from, and their children are vastly better off under American conditions. The street-car employees of Vienna were last month on strike against the prevailing sixteen-hour day; and they are in easy luck when compared with common laborers in the Polish provinces. It is only a question of time and of improved organization when more reasonable hours and more reasonable wages will obtain in such trades as those which are now largely monopolized by these Polish Jews of recent immigration."—From "The Progress of the World," in *American Monthly Review of Reviews* for July.

THE INLAND EDUCATOR.

A JOURNAL FOR THE PROGRESSIVE TEACHER.

FRANCIS M. STALKER, }
CHARLES M. CURRY, } *Editors.*

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For the benefit of our subscribers who wish to have their volumes bound we have prepared an analytical index to volume IV, which will be sent free upon request.

* * *

Volume IV. With this issue THE INLAND EDUCATOR completes its fourth volume, and its second year of publication. Its success has been very satisfactory and inspiring to its editors and publishers, and the future is bright.

We have so often called attention to the special field that the EDUCATOR is trying to fill that it does not seem necessary to do so once more, and yet we wish to emphasize the fact that THE INLAND EDUCATOR was established simply for the purpose of furnishing a medium for more complete discussion of educational theory and practice than existed at the time of its establishment. A glance over our table of contributors will make it perfectly clear, we think, that we have succeeded. Arrangements are already perfected for several unusually strong and valuable series of contributions for the coming year, a few of which are announced elsewhere in our advertising pages. We can promise our readers that no pains will be spared to put before them the very latest and best in their field of work.

* * *

Report of the Committee of Twelve on Rural Schools.

At the meeting of the National Educational Association in 1895 a committee was appointed to investigate the subject of rural schools. The report of this committee has been published, and it deserves the attention of teachers everywhere. In importance this document will doubtless rank with the reports of the committees of Ten and Fifteen. This committee consisted of Henry Sabin of Iowa; D. L. Kiehle of Minnesota; A. B. Poland of New Jersey; C. C. Rounds of New Hampshire; J. H. Phillips of Alabama; B. A. Hinsdale of Michigan; S. T. Black of California; W. S. Sutton of Texas; L. E. Wolfe of Missouri; W. T. Harris of Washington, D. C.; L. B. Evans of Georgia; C. R. Skinner of New York.

This committee was divided into four sub-committees each of which was given a special topic for investigation, as follows: 1. School maintenance. 2. Supervision. 3. Supply of Teachers. 4. Instruction and Discipline.

The committee as a whole, through Chairman Sabin, makes a summary of the points of most pressing importance as follows:

1. For purposes of organization, maintenance, or supervision, nothing should be recognized as the unit smaller than the township or the county; the school district is the most undesirable unit possible.

2. Every community should be required to raise a certain sum for the support of its schools as a prerequisite for receiving its share of public money. A certain definite sum should be appropriated to each school out of the state funds, and the remainder should be divided in accordance with some fixed and established rule; a discrimination being made in favor of townships most willing to tax themselves for school purposes.

3. One of the great hindrances to the improvement of the rural school lies in its isolation, and its inability to furnish

to the pupil that stimulative influence which comes from contact with others of his own age and advancement. The committee, therefore, recommends collecting pupils from small schools into larger, and paying from the public funds for their transportation, believing that in this way better teachers can be provided, more rational methods of instruction adopted, and, at the same time, the expense of the schools can be materially lessened.

4. There is a tendency to fill the rural schools with untrained, immature teachers. The establishment of normal training schools, under competent instructors, with short courses, each year of which shall be complete in itself, would do much to remedy this evil. The extension and adjustment of the courses and terms of the state normal schools so as to constitute a continuous session would enable them to contribute more directly than now to the improvement of the teachers of rural schools. The state would then be justified in demanding some degree of professional training from every teacher in the rural as well as in the city schools.

5. The establishment of libraries, the prosecution of the work of school extension by lectures and other means, the introduction of such studies as will have a tendency to connect the school and the home, especially those having a direct bearing upon the every-day life of the community, and the necessity of applying the laws of sanitation to the construction of rural school-houses, demand immediate attention.

6. The rural schools are suffering from the want of official and intelligent supervision. In every state some standard of qualifications, moral and intellectual, with some amount of actual experience, should be demanded by law from those who aspire to fill the office of superintendent or supervisor of schools.

7. Good morals and good manners constitute an essential part of an educational equipment. The inculcation of patriotism, of respect for law and order, of whatever tends to make a good citizen, is of as much importance in a small as in a larger school. Regularity, punctuality, obedience, industry, self-control, are as necessary in the country as in the city school. Country school-teachers should call to their aid the beautiful things in nature, that with reverential spirit they may lead the children to reverence Him who hath made all things good in their season.

* * *

Individual Work.

The teacher who has had experience in the rural school will enjoy the report of the subcommittee on Instruction and Discipline. Dr. Harris was chairman, and L. E. Wolfe of Missouri makes a separate report on grading and classification. Dr. Harris says that the work in small ungraded schools must be for the most part individual. Possibly this discussion involves the greatest of all pedagogical problems. The one thing that every real teacher is striving to do is to stimulate the greatest self-activity possible in every pupil every day. This means that every pupil is being taught. Now, when the teacher has in the same class pupils of different ages, different capacities and different attainments, the problem becomes a large one. It is closely allied to the problem of promotions. If it is possible to get the most growth of which the pupil is capable, classification and promotion are subordinate and will take care of themselves. But

nothing short of the greatest development for each child will be just, and all classification and promotion should be means to this end. The problem is capable of solution by the teacher who is a student of his pupils, and light is coming.

* * *

Continuous Sessions in Normal Schools.

This is one of the points touched upon in the Report of the Committee on Rural Schools. Continuous sessions are suggested as one of the solutions to the problem of supplying better teaching force to the rural schools. We think the point is well taken. We are heartily in favor of continuous sessions in our colleges and normal schools. The University of Chicago has adopted it and it is one of the strongest features of this institution. The State Normal School at Winona, Minnesota, will enter upon this plan July 1. This school will have four quarters of twelve weeks each, beginning July 1, October 1, January 1, and April 1. The value of such a plan as this is obvious. It is especially applicable to teachers' colleges. Rural school teachers can thus teach a half year and attend school the other half.

* * *

Continuous Sessions in the Public Schools.

The continuous session idea is not going to stop with the colleges. More rational methods in education will shortly push it into the lower grades. Common sense cannot much longer tolerate the present plan of the public school. Can the present system be justified on any rational basis? Who fixed the school-year at three, six or nine months? Who made the school-day six hours? Do these conditions fit the nature of the child? Does the child grow only part of the year? Does he not need direction the year round? The same spirit that has led to kindergartens and has started all these investigations in child-study will do away with our present stupid plans. The educator may learn a lesson and read the signs of the times by studying the institutions for the education of the deaf or blind. The training of the body is to have larger part in the coming education. Not training for trades—not that—but the use of manual work and outdoor work, and excursions in connection with the regular school work. Fewer hours of pent-up life in an overcrowded building, smaller classes, and more individual work are the demands of a larger idea of education. School work that is less arduous to the teacher, and school life that is more joyous to the pupil, are things for which we hope. Continuous sessions with less of the machine idea is one step in this direction. Then, better buildings and grounds and more apparatus and

more fresh air and nature and life will follow. When will it be? Well, it will *not* be while we count the cost in dollars. It will not be while teachers have the present notion of school work. It will never be in the day of the *tired, worried* teacher. It will never be till we learn to solve the problem of the hour by doing the best thing at this present moment for this boy and this girl. It will never be till we learn that we are training for eternity, and that arithmetic as such amounts to nothing. It will be when we learn to live with the children.

* * *

Dr. Harris on Standards of Admission to Colleges.

In the June issue of *Education* Commissioner Harris asks the following question and answers it in the affirmative:—"Should the present standard of college entrance requirements be lowered through concerted action, and partial if not complete uniformity of requirement?" The Commissioner declares himself on the side of President Eliot and others who would not separate the pupils preparing for college from those who will pass directly from the high school to their life work. He lays down the fundamental principle that "*all* the pupils should have the best course of study while they are in school, and this best course should be the one required for admission to colleges." He holds that the movement of thirty years ago to raise the standard was "a groping," and that the advance was too great, since it moved the college too far from the masses. He would make the entrance requirements one year less, thus leaving the greater advance and specialization to the small number who have means and leisure to devote to post-graduate study.

The plan may seem at first thought like a step backward, but really it suggests progress, and means the best available culture for the largest number.

* * *

Moving along lines of least Resistance.

There are active and passive school teachers and superintendents; there are negative and positive ways of procedure; there are Oriental and Occidental schools at present. There is one standard which measures the school by the amount of friction; the less the friction the greater the success of the school. Push the figure and this school will find itself in its proper category—that of the machine. There is all the difference in the world between a machine and a living organism. The school should be the latter. There is an impression among some superintendents that the large function of their office is to see that the people are not imposed upon by their

teachers. These superintendents are anxious to move along the lines of least resistance. They do not know much about school teaching. They run a machine, and if the machinery gets out of order they know of no rational way of adjustment. They stand with the people, and if the teachers can't keep down friction they must go. Another idea is that the superintendent must be a school-man, and capable of directing a real live organism. He must be able to sympathize with his teachers in difficulties; he must be fertile in resources; he must help build up. Superintendents of the first class are costly figure-heads. Superintendents of the second type are indispensable in a successful system.

* * *

The great event of world-wide interest during the month of June was the celebration of the sixtieth anniversary of Queen Victoria's reign. Newspapers and periodicals in all languages and in all lands have devoted much space to accounts of the jubilee, and to considerations of Her Majesty's long and prosperous reign. All this is in pleasing contrast to gloomy reports that for some time past have characterized so much of the news from Europe. The merest glance at some of the features that mark the last sixty years of English history shows what a marvelous period it has been. Victoria took the scepter in 1837 as queen of an empire; to-day, if the phrase be not a contradiction, she rules a democracy. The struggle for political freedom, commencing away back on Runnymede early in the thirteenth century has been completed during the Victorian age. Nobility, middle classes, and finally the working classes, have, in turn, demanded their rights, and, in turn, have received them, until England to-day in all but name is a democratic government. The last great advance toward this condition has been during the present reign, and it must be counted as the supreme achievement since it is the emancipation and the elevation of the masses.

The Victorian age boasts a long roll of illustrious names: Thackeray, Dickens and Charlotte Brontë; George Eliot, Bulwer Lytton and Charles Kingsley; Tennyson and Browning, Carlyle and Arnold, Macaulay and Ruskin; Spencer, Darwin, Tyndall and Huxley; Gladstone, Disraeli and John Bright; Newman and Manning.

These, towering above a host of others who are lower, but yet eminent, stand for marked progress social, political, scientific and religious. It is a great thing to have ruled England for sixty years; but to have occupied the throne during such a period of peace and progress must be gratifying even to the heart of royalty.

The Jubilee was marked throughout by expres-

sions of good will and affection towards the Queen. The greeting sent by President McKinley doubtless expresses the unanimous sentiments of the American people:

To Her Majesty, Victoria, Queen of Great Britain and Ireland and Empress of India:

GREAT AND GOOD FRIEND—In the name and on behalf of the people of the United States, I present their sincere felicitations upon the sixtieth anniversary of your majesty's accession to the crown of Great Britain.

I express the sentiments of my fellow-citizens in wishing for your people the prolongation of a reign illustrious and marked by advance in science, arts and popular well-being. On behalf of my countrymen I wish particularly to recognize your friendship for the United States and your love of peace exemplified upon important occasions.

It is pleasing to acknowledge the debt of gratitude and respect due to your personal virtues. May your life be prolonged, and peace, honor and prosperity bless the people over whom you have been called to rule. May liberty flourish throughout your empire under just and equal laws and your government continue strong in the affections of all who live under it.

And I pray God to have your majesty in his holy keeping.
WILLIAM MCKINLEY.

* * *

The New Superintendents.

We make no apology for devoting so much space this month to brief sketches of the new superintendents recently elected in Indiana. However we have not used any of our regular space for this purpose but have increased the size of our magazine this issue to the extent of sixteen pages over the regular issue, some of the space being devoted to advertisements. The men in this list have had a very important responsibility committed to their hands. They should be persons of high scholastic attainments and professional ability and experience. We believe, in the main, that they are such. It is unfortunate that the office must be one of the spoils of politics, but it is matter for congratulation that in spite of this men of real merit succeed. It is interesting to note the very large proportion of young men in the list. We regret that the limited time did not allow us to secure data concerning all, although the list in itself is complete.

* * *

Tippecanoe Battle Ground Monument.

Last year we called the attention of our readers to the fact that an effort was being made to raise money for a suitable memorial to be erected on the Tippecanoe Battle Ground. The aim of the committee having it in charge was to secure the funds for the work from penny contributions to be made by the school children over the state. For some reason the plan was not generally understood and not many schools

made provision for the taking of the contribution. Some money, it seems, has been raised, and the committee having the matter in charge are preparing a program for patriotic day (November 7th) which will be published in THE EDUCATOR for October. We understand it is the hope, in connection with this celebration, to still further increase the memorial fund. It may be of interest to our readers to have a report of the treasurer, Mr. Worth Reed, of Lafayette, in regard to the amounts which have been received from time to time since November, 1895:

City of Lafayette, November, 1895	\$43 50
Tippecanoe county, November, 1895	49 83
Superintendent G. M. Nabor, Columbia City, December, 1895	10 00
J. V. Catron, Westville, August, 1896	8 70
S. A. Laird, Chalmers, December, 1896	1 50
Superintendent James F. Scull, Rochester, December, 1896	3 55
M. M. Watts, Big Creek Tp., White county, December, 1896	50
Emma Stewart, Brazil, January 6, 1897	67
Alice H. Keever, Big Creek Tp., White county, January 6, 1897	22
Sagie Stewart, Brazil	40
J. R. Huston, Aurora, February 6, 1897	4 25
Superintendent Calvin Moon, South Bend, March 27, 1897	63 14
Dora DuPent, Jackson county, June 14, 1897	10
J. W. Payne, New Palestine, June 14, 1897	43
Sullivan county, June 14, 1897	50
Tippecanoe county, June 14, 1897	4 61
	<hr/>
	\$156 99

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Commissioned High Schools in Indiana.

The state board of education is just issuing a circular of information relating to the commissioning of high schools. This circular is very elaborate and will prove very helpful indeed. In Indiana, commissions are granted to high schools which meet the following requirements:

1. The character of the work must be satisfactory.
2. The high school course must be not less than thirty months in length, counting from the end of the eighth year.
3. The whole time of at least two teachers must be given to the high school work.
4. The course of study must be, at least, a fair equivalent to the one recommended in this circular.

The board of education recommends this course of study for the non-commissioned and township graded high schools of the state, and teachers are urged to follow the suggestions for commissioned high schools as far as possible. The thought is that the work should be done so well that pupils completing one, two, or three years in the non

commissioned schools should receive credit for this work upon entering any of the commissioned high schools. The circular is full of good suggestions from beginning to end, and teachers and officers will find in it a good deal of information relative to the best books and apparatus.

* * *

The twenty-first Geological Report of Indiana.

This report considers in a very thorough way the natural resources of Indiana, and includes a very large fund of information that will not be found elsewhere. Mr. Blatchley has had the assistance of the most competent men in the state, and he is to be congratulated upon the completeness of his volume.

* * *

Greek Monachism.

The Hon. Z. T. Sweeney of Columbus, Indiana, has an interesting article in the July *Commonopolitan* on "Greek Monachism." Mr. Sweeney is a very interesting writer, indeed, and this article will be widely read. The article itself is descriptive of the life of the Greek monks, who have their abode in the almost inaccessible summits of the ragged peaks of the Pindus mountains. The description of these abodes is very vivid. The article is profusely illustrated. An early number of THE INLAND EDUCATOR will contain an illustrated article on "Constantinople" by Mr. Sweeney.

A WORD ABOUT NATURE-STUDY.

If variety be the spice of life, then the course in nature-study suggested by W. P. Shannon in the June number of THE INLAND EDUCATOR is, to say the least, unseasoned. Many teachers who have to do with the difficult problems of nature-work, believe that one of the fundamental errors of the work lies in the fact that children have been—and in many places still are—"rocked and botanized" to death. Variety seems a good thing in this, as in many branches of study, if the varieties be connected rationally, and by some stronger bond than mere seasonable occurrence. I think there is little difference of opinion concerning some points. We all recognize that nature-study, in many schools, has been too heterogeneous a conglomeration. This, that, and everything have been lumped together with no more apparent reason than mere existence.

The suggested improvement, however, seems to me to be but little better. A study of rocks for a year would be wearying to anyone but a born lithologist, and would cause the younger pupils, at least, to believe rocks the only things in nature worth studying. Children very quickly adopt a hobby, and much harm would be done in such an one-idea course unless the teacher were most superior. Furthermore, the study of igneous rocks in detail—and one cannot suppose the whole year to be devoted to the stratified rocks—would be irrational in any but those states where igneous rocks are found, for it would be of no immediate use or application to the pupils.

How long will it be before our educational leaders who outline courses for schools, will recognize the paramount importance of properly arranged nature-work in leading the child to the beginning of geography, through a study of nature at home? I do not mean the nature that is classified and arranged in text-books and moral story books, but the nature of the locality to be seen on every hand, if only the teacher be a lover of out-of-doors and independent of the text-book.

Home geography is the basis of all later geography work in schools; and what better beginning can be made in home geography than the study of the plants, rocks, minerals, birds, animals, insects, weather, valleys, brooks, etc., of the home region? When I say study I do not mean the dry dissecting of specimens and the noting of details—so-called training in observation—but the study of objects of the organic or inorganic realms, in reference to their neighbors and to man. Children can be led to love nature, if nature-work in schools be rational. At present, many pupils in many schools consider the study of indoor nature as perhaps the most tiresome part of the day's work. They come to be out of tune with the birds and bees rather than in sympathy with all about them. Children are usually sympathetic, and their interests can be gained with ease if the facts given them be alive, and have some reference to their own lives. Were our children trained better in nature-work, we would prepare them to become men and women capable of finding their greatest pleasures and full life with nature, and incapable of the wanton attacks on all that is alive that are so sure an accompaniment of "outings" in our day.

Let us hope that ere long some sympathetic and scientific naturalist and teacher, who has not been too long out of touch with nature, will help us to improve our nature-work in schools by showing us how to lay the foundations of a knowledge of the world of nature at home.

RICHARD E. DODGE.

TEACHERS' COLLEGE, NEW YORK CITY.

THE NEW COUNTY SUPERINTENDENTS.

We give below a list of the county superintendents elected throughout Indiana on the first Monday in June, to serve for a term of two years. The changes were numerous. More than sixty of the present list are new men. It has seemed to the editors, in view of this fact, that a brief sketch of the newly elected superintendents would be interesting, and we present, therefore, a few facts about each, as far as we have been able to secure them.

Adams County, Irvin Brandyberry.

Mr. Brandyberry was born in Adams county, October 3rd, 1866. He received an education in the public schools of his own county, later attending the Portland Normal School, and the Tri-State Normal at Angola, Indiana. He has been a teacher for nine years, the last term having charge of the Pleasant Mills graded school.

Allen County, F. J. Young. (Re-elected.)**Bartholomew County, James H. Clark.****Benton County, L. A. McKnight.**

Mr. McKnight was educated in the common schools and has taught ten years, four in the district schools and six in the graded schools. In 1892 he resigned the principalship of the Fowler schools to accept the position of assistant cashier of the bank of Benton county. He retired from that position to take charge of his present one.

Blackford County, M. H. McGeath. (Contest.)**Boone County, R. H. Harney.**

Mr. Harney was born in Bath county, Kentucky, September 11th, 1841. His education was secured in the elementary schools, and he taught four years before the breaking out of the Civil War. He enlisted in 1862 and served three years, after which he continued in the teaching profession until 1868, when he went to Virginia and Tennessee as a special agent for an insurance company. Later on he went to California on the same business. From 1874 to 1880 he taught in the country schools of Boone county, when he secured a position in the city schools, afterwards being promoted to the high school, and later on becoming the superintendent of the same. He was chief clerk in the postoffice for a term, and then became assistant cashier in the First National Bank, which position he was soon obliged to resign on account of an injury received in a runaway. In 1894 he again took up school work. Mr. Harney's wide experience qualifies him for his new position.

Brown County, Cornelius Campbell.**Carroll County, Isaac F. Myer.**

Mr. Myer was born at Flora, January 3d, 1872. He was educated in the schools of his own county and at the Indiana State Normal School, from which institution he graduated in the class of 1895. Mr. Myer taught two years in the district schools,

two years as High School principal at Flora, two years as superintendent at Camden, and has been an assistant for two years in the spring term at the State Normal School, in the department of Geography. He is in every way qualified for his new position.

Cass County, J. F. Cornell. (Re-elected.)**Clark County, S. L. Scott.**

Mr. Scott was born February 27th, 1867. He was educated at the Ladoga Normal School and at Borden Institute. He was, also, a student for some time at the State Normal. Mr. Scott has had eleven years' experience as a teacher, having been principal for three years of the schools in Clarksville, the oldest town in Indiana. Mr. Scott was a student at Borden Institute when the senior editor of THE INLAND EDUCATOR was president of that institution. He will make a good superintendent.

Clay County, W. H. Chillson. (Re-elected.)**Clinton County, J. H. Grover. (Re-elected.)**

Mr. Grover was born in 1862 near Frankfort, Indiana. He attended the Frankfort High School and the Union Christian College at Merom, Indiana. He had twelve years experience in teaching in the district schools of Clinton county before he was elected in 1896 to fill the vacancy in the office of the county superintendent. His experience has been such as to fit him well for supervising the district schools.

Crawford County, C. A. Robertson.

Mr. Robertson was born in Crawford county, September 7th, 1870. His education was secured in the district schools; his summers spent upon the farm. He taught three years in the district schools, and for the past three years has been principal of the schools at English. He graduated from the Empire state teachers' class of Pedagogy, Dansville, N. Y., in 1890. In 1891 he finished the teacher's course of the Southern Indiana Normal College and graduated from the same institution in 1893 with the degree of B. S.

Daviess County, William A. Wallace. (Re-elected.)**Dearborn County, S. K. Gold. (Re-elected.)**

Mr. Gold was born in Franklin county, Indiana, in 1852, and is therefore 45 years of age. He was educated in the Harrison (Ohio) High School, and

thereafter took a Scientific Course at the Collegiate Institute at Lebanon, Ohio. For a number of years he resided at Harrison, teaching school and following book-keeping. He met with the serious loss of his left arm below the elbow several years ago, which would have been an insurmountable embarrassment to many, but not to him. In June, 1895, he was elected County Superintendent and in October, 1895, he moved to Lawrenceburg, where he has ever since resided, in the faithful discharge of his official duties.

Decatur County, Elmer C. Jerman.

Mr. Jerman was born June 26th, 1869, near Delaware, Indiana. He had his early schooling in the public schools of Ripley county. He afterwards attended Franklin College, graduating there in 1892. He did post-graduate work in the State Normal School and at Franklin College, receiving in 1894 the degree of A. M. from the latter institution. He taught one year in Ripley county, one year in Franklin county, and for the past four years has been principal of schools at St. Paul, Indiana. He has, also, been interested in company with ex-County Superintendent J. Q. Shanck, in conducting a successful summer normal in his county. He is well fitted in every way for the position he has assumed.

DeKalb County, Henry E. Coe.

Delaware County, Charles A. Van Matre.

Mr. Van Matre was born December 31st, 1869, in Delaware county. He attended the district schools, graduating from same when thirteen years of age. When eighteen he began teaching and has worked in district and township graded schools for eight terms. He attended the State University from 1893 to '95. Mr. Van Matre is another of the live young men who have recently taken good school positions and his success will certainly be noticeable.

Dubois County, George R. Wilson. (Re-elected.)

Mr. Wilson was born in Perry county, August 15th, 1863. His family removed to Dubois county in 1868, where Mr. Wilson a few years later began the struggle of life in a coal mine. His education was gotten under great difficulty, but he was finally fitted for teaching and spent nine years in the work, the last two of them as principal of the high school at Ireland. He was deputy surveyor of his county for one term and surveyor for one term. In 1889 he was appointed county superintendent, and has held the position since. The schools of his county have been recognized as on a high plane of efficiency, and he takes prominent part in every movement that looks to their im-

provement. Mr. Wilson is the author of a well written history of his county.

Elkhart County, Geo. W. Ellis. (Re-elected.)

Fayette County, Calvin Ochiltree.

Floyd County, Levi H. Scott.

Mr. Scott was born in Floyd county March 26th, 1856. His father being a farmer of limited means his early educational advantages were somewhat restricted. He began teaching school in 1872. In the spring of 1873 he entered Bedford College and graduated from that institution in 1876. In the spring of 1877 he entered the Normal School at Valparaiso, Indiana, and remained in that institution two years. In 1881 he was elected superintendent of Floyd county and served one term, being defeated in 1883. He was elected again to the same office in 1885 and in 1887. He was treasurer of Floyd county from 1889 until 1893. From 1893 up to the present time he has served as principal of the West Spring Street School in New Albany. Mr. Scott's service has been a long and honorable one, and he comes to his new position with a great deal of experience that will no doubt make him very successful.

Fountain County, Grant Gossett. (Re-elected.)

Mr. Gossett was born in Fountain county, October 27th, 1867. He was educated in the common schools and in the Covington Normal. His work as a teacher began at the age of eighteen. He was elected county superintendent in 1895 and was unanimously re-elected this year. Last year he was chairman of a committee of county superintendents to prepare a program for the celebration of patriotic day in the schools of Indiana.

Franklin County, Will H. Senour. (Re-elected.)

Mr. Senour is thirty-five years of age and secured his education in the district schools and at the Danville Indiana Normal School. He was for a time a telegraph operator and commenced teaching in 1884, continuing in the district schools until 1887, when he took charge of the Mt. Carmel schools. He was in this position when elected county superintendent in 1891. Mr. Senour was chairman of the county superintendents' round table at the meeting of the National Association in February last. He is one of the most progressive superintendents in the state.

Fulton County, William S. Gibbons.

Gibson County, John T. Ballard.

Mr. Ballard was born in Gibson county in 1872. After attending the district schools he continued his studies in the Princeton Normal, Indiana

University and the Northern Indiana Normal School at Valparaiso. He taught six years in the public schools of his county and the past year was principal of the Haubstadt High School. At the time of his election he was engaged in teaching the spring term at Haubstadt. His experience would seem to indicate a good acquaintance with the needs of the district schools.

Grant County, Alexander Thompson.

Greene County, Harvey E. Cushman.

Hamilton County, E. A. Hutchens. (Re-elected.)

Mr. Hutchens has just begun his seventh term as county superintendent, having begun work in 1885. At that time there was but one township high school in the county, now there are fifteen, every township having a graded school. During his term of service forty-seven brick buildings have gone up in his county, and good school libraries have been placed in each. This year there were 305 common school graduates. His teachers all do the reading circle work, and 7,000 pupils were reading the books of the children's circle. There is no need of a new superintendent in Hamilton as long as Mr. Hutchens keeps things moving.

Hancock County, Lee O. Harris.

It is a distinct pleasure to chronicle the election of so well known and popular a person as Lee O. Harris to the superintendency. He was born in Chester county, Pennsylvania, January 30th, 1839. His early education consisted of the common school, and afterwards an academic course in that state. He began teaching in Indiana in 1857, since which time, with the exception of three terms when he was in the army, he has been constantly engaged in school work. He has done quite a good deal of literary work, having been for several years editor of the "Home and School Visitor," and also for a time editor of the Greenfield "Republican." He has taught in the district schools, was principal of the Greenfield High School, and for five years, 1874-79, was principal of the schools at Louisville, Henry county. Mr. Harris' career has been a long and successful one.

Harrison County, Amzi Weaver.

Mr. Weaver was born October 25th, 1873. He is a graduate of the Corydon High School, and has been a teacher in the common schools of that county for three years. Mr. Weaver, it will be noticed, is one of the youngest of the new county superintendents, and seems to be well qualified for the position.

Hendricks County, James D. Hostetter. (Re-elected.)

Henry County, W. F. Byrket.

Mr. Byrket is thirty-four years old and has taught ten years. His education was received at Spice-land Academy and at the Central Normal College at Danville and at the Northern Indiana Normal School at Valparaiso. Mr. Byrket has been a trustee in this county for some time, and is intimately acquainted with the needs of the country schools. He is evidently well fitted for his new work.

Howard County, George W. Miller. (Re-elected.)

Mr. Miller was born in Ervin Township, Howard county, Indiana, in 1857. His early life was spent on a farm. He attended the local district school and the New London High School. Taught in the rural schools of his township eight years. He spent three years in study at the Normal University, Lebanon, Ohio, graduating in 1886 with the degree of B. S. He was principal of the Alto schools three years, and of the Russiaville schools two years. He was elected superintendent of Howard county, June, 1891, and has served continuously ever since. He was granted a life state certificate upon examination in 1886, and received the degree of M. S. from his alma mater in 1897 for post graduate work.

Huntington County, Henry D. Shideler. (Re-elected.)

Jackson County, J. E. Payne.

Jasper County, Louis H. Hamilton.

Mr. Hamilton was born in Hamilton county in 1871. Two years later he was left an orphan and was placed in the Orphan's Home at Indianapolis. He remained there until eight years of age, when he was sent to Jasper county. For seven years he attended the common schools, and afterwards the Rensselaer High School, from which he graduated in 1891. Since that time he has been teaching in the public schools of his county, having spent during his vacations one term at Valparaiso and one term at the State Normal School at Terre Haute. Mr. Hamilton is a well equipped man for his new duties and will no doubt succeed admirably.

Jay County, Lewis Crowe.

Mr. Crowe was born in Jay county July 16th, 1871. His school education was received in the common schools, his summers being spent on the farm. In 1890 he began teaching and continued in that work until 1896, part of his vacations being spent at the Lebanon, Ohio, Normal. The last year was spent in Indiana University. Mr. Crowe has attended the State Normal School two spring terms and a summer term. For two years he was assistant principal of the Pennville schools and last

year was principal. He is well qualified for his new position.

(The trustees in Jay were evenly divided in politics. One of them had been appointed postmaster and it was claimed had no vote, thus giving Mr. Crowe a majority. The contest has not yet been decided.)

Jefferson County, George S. Taylor.

Mr. Taylor is a graduate of Hanover College in the class of 1886. Following his graduation he spent two years in Pittsburg, Penna., returning to take the principalship of the Ryker's Ridge High School. In 1891 and 1892 he was instructor in mathematics in the Madison High School; in 1893-96 he was principal of the Grafton (Illinois) High School, and last year was elected to the principalship of the Madison High School. He is a man of marked ability and will no doubt make a fine superintendent.

Jennings County, M. W. Deputy.

Mr. Deputy was born in Jennings county on the 27th of October, 1868. He spent some time in Hope Normal College, and afterwards graduated from the Southern Indiana Normal College, at Mitchell, in 1891. Mr. Deputy is in his senior year at Indiana University. He has had considerable practical experience as a teacher, having spent four years as teacher in country schools, four years as principal of township graded high school, and four years in teaching private spring terms.

Johnson County, E. L. Hendricks. (No election.)

Knox County, John L. House.

Mr. House was born on the 18th of March, 1874, and is another one of the young men elected to the superintendency. He was educated in the district schools, and was, also, for a brief period in the graded schools at Bicknell and at Bruceville. He spent one term in Vincennes University and has been a student for three years in the State Normal School. He has had three years' experience in teaching.

(In Knox county there is a contest regarding the superintendency, between Mr. House and Mr. Phillippe, who has held the office for some time. It seems that, as in other cases, the trustees were evenly divided and that the county auditor took a hand in settling the matter. The final result is not yet known, although we understand Mr. House is at present performing the duties of the office.)

Kosciusko County, Geo. W. Worley.

Lagrange County, E. G. Machan. (Re-elected.)

Mr. Machan was born in Tuscarawas, Ohio, on the 7th of July, 1845. He attended the country

schools and studied the higher branches in a private school at Fredericksburg, Wayne county, which was afterwards absorbed by Wooster College. He taught one year in Ohio, one in Kansas and fourteen in Indiana. Of the latter experience six years were spent in the Lagrange High School, Mr. Machan resigning that position to take the superintendency of Lagrange county in 1881. He has filled the place since that time, and we understand this is the longest continuous service in office of any county superintendent in the state. Mr. Machan is an excellent man for the position and is certainly to be congratulated upon his re-election.

Lake County, Frank E. Cooper. (Re-elected.)

Mr. Cooper was born in Lake county forty-two years ago. His father was a shoemaker and the son spent his summers at the same occupation. He was educated in the Crown Point Schools and the Northern Indiana Normal School. After three years teaching in the country he begun work in the Crown Point school where he remained for four years, leaving that place to take the superintendency of his county in 1882. Since that time he has been re-elected every two years, and this year by a unanimous vote of the board. The schools of Lake county are in good condition and Superintendent Cooper is to be congratulated as the third oldest county superintendent in service in the state.

LaPorte County, Chas. A. Zigler. (Re-elected.)

Lawrence County, W. E. Stipp.

Madison County, Lawrence McTurnan.

Mr. McTurnan was born on the 1st of November, 1874, near Rigdon, Indiana, and received his early education at that place. He was for a short time a student at Indiana University and then entered the State Normal school, from which he has just graduated in the four years course with the class of '97. While Mr. McTurnan is quite a young man he has been well trained for the work of supervising schools, and affairs in Madison county will certainly be safe in his keeping.

Marion County, W. F. Landes.

Marshall County, George D. Marks.

Mr. Marks was born on a farm in Marshall county, July 28th, 1860. He attended the district schools until sixteen years of age and then took a teacher's course at the Northern Indiana Normal School. He taught in the country schools of his county until 1886 when he took a business course in the American Normal College at Logansport. Beginning in November, 1887, he served a term as

deputy clerk of the circuit court in his county, and since the expiration of that work has been teaching. He is a man of good attainments and will succeed as superintendent.

Martin County, Elijah McFarland.

Mr. McFarland is twenty-eight years of age. He attended the public schools of his own county, and graduated later from the Central Normal College at Danville. He is a man of great energy, and has been for the last three years superintendent of the Loogootee public schools. He will make a progressive county superintendent.

(There is a contest in this county owing to the fact that the trustees are evenly divided in politics, and that Professor McFarland was elected by resolution, the auditor casting the deciding vote. The contestant is J. T. Morris, of Shoals, who has held the position of county superintendent for some time.)

Miami County, Ellis H. Andrews.

Monroe County, Thomas J. King.

Montgomery County, Ward B. Walkup.

Mr. Walkup was born in Montgomery county January 3rd, 1859. He lived on a farm and attended the district school until sixteen years of age, when he entered the Central Indiana Normal School at Ladoga. He continued to attend this institution as his means would allow until he completed the three courses, business, teachers and scientific. Mr. Walkup has taught in the country schools, and for the last four years has been principal of a graded school. He is well acquainted with the needs of the schools under his charge.

Morgan County, W. O. Baker.

Mr. Baker was born in Morgan county in 1866, and after graduating from the High School and taking a term in the Indiana State Normal School, began teaching in 1884. He has taught every year since, the first eight years being in the district schools. Since 1893 he has been principal of the schools at Brooklyn, Indiana. He has attended the State Normal each spring during this time and has about completed the three years course. Mr. Baker is one of the new men of sterling merits.

Newton County, W. W. Pfrimmer. (Re-elected.)

Mr. Pfrimmer was born in Massac county, Illinois, January 27, 1856, removed to Harrison county, Indiana, in 1860, and to Newton county in 1870. He attended the country schools until sixteen, spent two years in High School, and then to use his own expression, "got his college education in the woods." He taught nine years, was trustee for four years, and has held his present office eight years. Mr. Pfrimmer is a writer of verse of no mean ability.

Noble County, Edwin L. Adair. (Re-elected.)

Ohio County, Eugene S. Espey.

Orange County, Orville Apple. (Re-elected.)

Owen County, Calvin F. McIntosh. (Re-elected.)

Parke County, Jesse Neet.

Perry County, Logan Esarey.

Mr. Esarey was born January 3rd, 1874. His education was had in the common schools of his county. He began teaching at the age of seventeen. One year was spent in college, and after another term of teaching he attended the Central Normal College at Danville, graduating from that institution in 1896. During the past year he was principal of the Cannelton High School.

Pike County, William S. Corn.

Mr. Corn was born in 1866. He attended the district schools and although laboring under adverse circumstances secured education sufficient to enable him to begin teaching. He attended the Oakland City Normal for three years and completed the teachers' course at Lebanon, Ohio. He began a more extended course at the latter institution but was compelled to drop out before completing it. He expects to finish it as soon as his term of office expires. He has been a teacher for thirteen years, during eight of which he has had charge of the Augusta graded school.

Porter County, A. A. Hughart. (Re-elect'd.)

Mr. Hughart was born August 12th, 1864, had his education in the district schools and the Valparaiso High School, from which he graduated in 1889. He graduated from Wabash College in 1893. Two years were spent as principal of the Hebron schools, at the end of which time he was elected county superintendent.

Posey County, Charles Greathouse (Re-elected.)

Mr. Greathouse was born July 17, 1869, on a farm near Mt. Vernon, Posey county. His elementary education was secured in the country schools. In 1884-85 he attended the Central Normal College at Danville, after which he taught in the district schools for three years. He also taught two terms in Hendricks county. He spent two years as a student in the State University doing special work in history and sociology. In 1893-94 he was Principal of the Springfield Graded School, and the next year was chosen Principal of the Central School—an eight-room ward building in Mt. Vernon. In September, 1895, he was chosen county superintendent to fill the unexpired term of Mr. Walter French. At the recent election he

was re-elected by acclamation. He holds a professional state license. He is earnest and energetic, faithful in the discharge of his duties and has his work well in hand.

Pulaski County, J. H. Reddick (Re-elected.)

Mr. Reddick was born in 1853. He began his career as a teacher at the age of eighteen; was principal of the high school at Winamac for several years, and was elected county superintendent in 1885, a position which he has since held. Mr. Reddick holds a life state license, issued in 1887. He established the Pulaski county *Democrat*, the leading political journal of the county.

Putnam County, Samuel A. Harris.

Mr. Harris was born in Flemming county, Kentucky, and removed to Putnam county, Indiana, when a child. He attended the district schools of his county and afterwards the Greencastle High School, where he was considered one of the most brilliant students in his class. He worked in a black-smith shop evenings and Saturdays for his board while attending high school. He was a student at DePauw University for some time. He has had considerable experience in teaching, and was last spring elected for the fourth year as principal at Roachdale. He was president of the Putnam County Teachers' Association in 1889. His experience in school work has been long and successful and indicates that his work as superintendent will be no less so.

Randolph County, Charles W. Paris.

Mr. Paris was born in Cincinnati, Ohio, on the 19th of July, 1848. As a student he attended the public schools of Union City, Indiana, Whitewater Academy of Wayne county, Spiceland Academy of Henry county, Woodward High School of Cincinnati, and the Indiana State Normal. He has taught almost constantly since 1868 in the schools of Indiana and Ohio. He has been in the Farmland schools for about eight years, part of the time as principal, and part of the time working in the grammar department. He was principal of the Union City High School in 1875-76. Mr. Paris is not entirely new in his position since he served a term beginning in 1873 in the same office.

Ripley County, Charles S. Royce.

Mr. Royce was born March 27th, 1865. He completed the work of the common schools, attended the State University for a while and graduated from the Indiana State Normal School in the class of '96. He has taught in Ripley, Crawford, Dearborn and Vigo counties. He has been principal of the New Marion schools, of the Osgood schools and of the Eckerty schools. He is well equipped in every way for his new position and will certainly succeed.

Rush County, Abraham L. Gary.

Mr. Gary was born on the farm in Rush county, March 7th, 1868. His education was secured in the district schools, and he began teaching when sixteen years of age. After five years work in the district schools he was principal one year at Avon, Hendricks county. During the World's Fair he was a member of the Columbian Guards. In 1895 Mr. Gary graduated from DePauw University with the degree of Ph. D. The schools of his county will certainly be well taken care of.

Scott County, Elijah A. Gladden.

Mr. Gladden was born on the 30th of January, 1860, in Scott county. He was educated in the common schools and in the independent normals which were held from time to time. He has filled all school positions from the country school to principal of graded schools, and has therefore long practical knowledge concerning the educational condition of that field. He has taught for eighteen years, holding a first grade license since his second school.

Shelby County, J. W. Barlow.

Mr. Barlow was born near Mt. Auburn, Indiana, January 20th, 1875. He spent his boyhood upon his father's farm, attending the Mt. Auburn schools in winter and working through the summer. He spent some time at Butler University, and the summers of 1892 and '93 in the Northern Indiana Normal School. He began teaching in the fall of 1892 and continued in the work up to the time of his election. Mr. Barlow, while a young man, has been very successful as a teacher and will make a good county superintendent. He has the distinction of being the first Republican county superintendent in Shelby county.

(Mr. Barlow was elected on the 198th ballot, by the deciding vote of the auditor. It was reported that his election would be contested, but we understand now that there will be no contest.)

Spencer County, Acquilla C. Huff.

Starke County, W. A. Faust.

St. Joseph County, Wm. Clem.

Steuben County, Homer Dilworth.

Mr. Dilworth was born on the 25th of November, 1871. In 1891 he graduated from the Tri-State Normal College at Angola in the classical course. For two years following his graduation he was teacher of Reading and Elocution in that institution. He spent one summer at the Boston School of Oratory. Mr. Deputy is an Ohio product having come to Indiana in 1888.

Sullivan County, Richard Park. (Re-elected.)

Mr. Park was born October 31st, 1861. He re-

ceived his education in the common country school and the Central Normal College, Danville, Indiana. He graduated in the scientific course in 1881. He has taught four years in the district schools; and one-half year as principal of the Sullivan High School; and two years as principal of the Orleans public schools. He served six years as trustee of Hamilton township; and has served one term as county superintendent of Sullivan county. He was unanimously re-elected at the last election.

Switzerland County, D. N. Haydon.

Mr. Haydon was born at Mt. Sterling, Indiana, April 11, 1853. He was educated in the Mt. Sterling graded schools. After teaching five years he studied medicine, receiving his education in that line at the Medical College of Ohio at Cincinnati. He served two years as surveyor of his county, beginning in 1882, and four years as auditor from 1886. Dr. Haydon is a man of good qualifications.

Tippecanoe County, J. M. Sullins. (Re-elected.)

Mr. Sullins was born in Boone county in 1842, was enlisted in the Civil War in 1861, in the 10th Indiana Volunteers. He received his education at the Lebanon Academy and Normal School. He taught in the district and graded schools of Tippecanoe county until appointed county superintendent in January, 1890. He was re-elected in 1891 and 1893, and had no opposition in the recent election.

Tipton County, A. H. Pence. (Re-elected.)

Union County, C. W. Osborne. (Re-elected.)

Vanderburg County, Joseph F. Ensle.

Mr. Ensle was born on the 17th of March, 1872. He was educated in the common schools of Vanderburg county, and graduated from the Evansville High School in 1892. He has taught five years, three in the district schools and two as principal of the McCutchanville High School. He is an enterprising young man and will keep the schools on an upward grade.

Vermillion County, E. E. Helt.

Mr. Helt was born February 8th, 1862, and spent his early life on a farm. The early death of his father deprived him of much in the way of school advantages until twenty-one. He succeeded, however, in fitting himself for teaching and began his work at New Providence, ten miles West of Terre Haute. After a few years in teaching, he spent two years at the Normal University at Lebanon, Ohio, from which he graduated in 1888. He continued teaching, spending occasionally his spring vacations in the State Normal School. He has been the last four years in the Perrysville schools,

the last two as superintendent. He is a well qualified man for his position.

Vigo County, Chas. F. Grosjean. (Contest.)

Wabash County, John N. Myers.

Warren County, A. E. Wilson.

Mr. Wilson was born in Jennings county January 2, 1859. He has been a resident of Warren county since 1875. He had his education in the district schools, working on a farm in the summer. He also spent some time in Central Normal College at Ladoga, Indiana. He has taught fourteen years in Warren county, three years of that time in the Williamsport schools. Mr. Wilson's long experience indicates fitness for his new position.

Warrick County, James R. Wilson.

Mr. Wilson was born on the 23d of December, 1860, in Warrick county. He attended the Boonville High School, the Preparatory School of the State University at Bloomington, and had two year's work in the University proper. His last teaching was in the high school at Boonville. Mr. Wilson is a man of good attainments and will not fall behind in his work as superintendent.

Washington County, S. H. Hall.

Mr. Hall was born November 25th, 1867, near Livonia. He attended the district schools until seventeen years of age, after which he completed the course in the Eikosi Academy at Salem. He has about completed the junior year in the Indiana University, with mathematics as his specialty. He began teaching when seventeen and has taught seven years in district schools, one year as principal of the graded school at Livonia, one year as principal at Fredericksburg, and one year in grammar and high school work at Crothersville. He is well equipped and will, of course, succeed.

Wayne County, W. E. Wineburg. (Re-elected.)

Wells County, Robt. W. Stine. (Re-elected.)

White County, Thos. S. Thornburg.

Whitley County, Burnside Clapham.

Mr. Clapham was born November 28th, 1863, at Mifflinburg, Pennsylvania. His parents moved to the West in 1870. He attended country schools until twelve years of age. From that time until he was nineteen he worked in a woolen mill during the summer and attended school during the winter. He taught his first school when twenty years of age, for \$21 per month. He graduated from the State Normal in 1891. The following year he took charge of the Monroeville schools, where he remained until 1895. There is no doubt that Mr. Clapham is well qualified for his new position.

EDUCATIONAL INFORMATION.

Isaac N. Warren, class '97, Indiana University, has been elected principal of the Rensselaer High School.

William F. Britton, class '97, Indiana University, has been elected superintendent of the Decatur schools.

Sigel E. Raines, formerly superintendent of the Sullivan schools has been elected principal of the Freeport, Ill., High School.

Ex-County Superintendent J. H. McGuire of Vernon will go into business. He will certainly succeed in whatever he undertakes.

The attendance at the Indiana University Summer School is the largest in its history, the number being about two hundred and thirty.

Professor J. C. Black of Anderson, Indiana, has recently been elected president of the State Normal School of Idaho, at Albion, and will accept.

Superintendent James R. Hart of the Lebanon school, graduated this year at Indiana University in the department of philosophy. He has been re-elected at Lebanon.

Professor B. W. Evermann and wife will spend the summer in the far west. Professor Evermann will have work in California and Oregon, and Mrs. Evermann will summer in California.

Professor Joseph Carhart, for many years president of the State Normal School at St. Cloud, Minn., has recently been elected president of the State Normal School at Mayville, North Dakota.

Professor Oscar B. Perry of Bloomington, Ind., has been elected professor of chemistry and physics in the Vincennes University. Professor Perry was a member of this year's senior class at Indiana University.

Herman E. Owen, class '97, State Normal, will spend a portion of the summer in a school of music in Chicago. He will return in time to give instruction in music in several of the county institutes of Indiana.

Miss Clara J. Mitchell, formerly principal of the Mitchell High School, will teach English and history in the Shelbyville school. Miss Mitchell received the degree of Bachelor of Arts from Indiana University this year.

Edwin Kahl, a graduate of Indiana University, has just been elected principal of the Jackson Street School at New Albany. Superintendent Hershman is filling his places with the very best teachers that he can find.

At the commencement of St. Joseph's Academy at Tipton, Indiana, Miss Elizabeth Young and Miss

Myrtle Means were graduated. This school is under the direction of the Sisters of St. Joseph, who erected the building in Tipton in 1891.

Superintendent H. C. Montgomery of Seymour has been re-elected for next year. Mr. Montgomery's work is the kind that wears well. His high school commencement this year was considered one of the best ever held in Seymour.

Humboldt College (Iowa) announces a summer session from June 21st to July 31st, with a number of elaborate courses of study. Professor Cromwell, whose book on "Child-Study" we noticed some time ago, has charge of pedagogy and history.

The seventeenth annual commencement of the Covington High School occurred May 28th. There were thirteen graduates. This is Superintendent Hart's second year at Covington. His high school teachers are the Misses Edna Hayes and Lola Payton.

Miss Jessie Montgomery, who has been teaching for two years in the Michigan State Normal Training School at Ypsilanti, has been re-elected. She is spending the summer in Terre Haute, doing some library work relative to her work next year.

Henry Holt & Company of New York, have arranged for the establishment of a western branch, beginning August 1st, at 378 Wabash avenue, Chicago. This will be a great convenience for teachers and schools in the West who use the fine text-books issued by this enterprising firm.

Professor O. L. Lyon, who has been at the head of the Steelville Normal School in Missouri, has been elected to the chair of Language and Literature in the Missouri Normal and Business College at Springfield. Professor Lyon is from Greencastle, Indiana, and has been very successful in his work in the West.

Superintendents Frank F. Highway of Crown Point, and A. R. Hardesty of Hobart, announce the annual session of the Lake County Summer School to begin July 12th and to continue six weeks. The common branches, vocal music, pedagogy, child-study, literature and Latin will receive their attention.

Superintendent Humke of Vincennes has closed another successful year. The twenty-fourth annual commencement of the Vincennes High School was held June 10th, and sixteen young men and women were graduated. On the evening of June 11th the colored school of Vincennes held its commencement exercises and there were nine graduates.

E. A. Remy, formerly superintendent of the Tipton schools, and later instructor in the Colum-

bus High School, is now proprietor and editor of the *Seymour Republican*. Mr. Remy is, however, still in active touch with the schools of Indiana. He is a trustee of Franklin College. He recently delivered the address to the senior class of the Madison High School.

Superintendent J. A. Carnagey of Columbus, Indiana, has just closed a very successful school year. Mr. Carnagey has had charge of these schools since 1890. The class this year numbered twenty graduates. Since 1872 the Columbus High School has graduated 314; 111 boys and 203 girls. The Columbus papers claim that this is the largest proportion of boy graduates of any school in the state.

The Tipton *Advocate* gives an excellent account of the closing exercises of the Tipton schools. The growth of Tipton and her schools has been remarkable. The present graduating class numbered twelve. Superintendent F. L. Jones is a live man. He has in his high school corps J. A. Hill, Miss Anna Lane, E. F. Allen and Joseph E. Booth.

Ex-County Superintendent C. M. Merica, of De Kalb county, expects to locate in Chicago this fall where he will engage in work that will keep him in touch with schools and school people. He is at present considering several offers but has not completely decided just which he will accept. He began work as county superintendent in June 1883 and has done excellent work in that position. He was not a candidate for re-election.

At the meeting of the Eastern Indiana Oratorical Association at Indianapolis, April 21, Forest Cartwright of Portland, won the first place. This association has had in its membership some of the high schools in eastern Indiana. Next year the membership is to be increased, and five of the largest schools of the state are to be added. After next year the plan is to divide the state into eight districts, within each of which will be held a contest of delegates from the commissioned high schools, and the winners in these contests will represent their respective districts in the state contest.

The annual commencement exercises of the Academic Institute of the Immaculate Conception, at Oldenburg, Franklin County, Indiana, were held on Thursday morning, June 24. This institution is conducted by the Sisters of St. Francis. The general subject of the graduating class was stated as "Five Important Factors in Education." These were indicated as Physical Culture, Object-Study, Language, Music and Religion, and were well presented by the graduates, the Misses Puttmann, Snider, Burkhardt and Stomps. This

school is located in one of the most picturesque regions of southern Indiana.

At the National Educational Association, Indiana teachers will have special headquarters in room 5, Hotel Pfister, at the corner of Wisconsin and Jefferson streets, Milwaukee. Special arrangements have been made for all Indiana delegates to have them located in East Milwaukee, which will place them near the lake, the state headquarters, and the places for general and department meetings. Superintendent W. R. Snyder of Muncie has done everything possible to make the Indiana teachers enjoy their trip to Milwaukee. It is hoped that Indiana will have a very large attendance upon this meeting.

Superintendent T. A. Mott of Richmond has been unanimously elected for another year at an increased salary. Mr. Mott's work during the past year has been very satisfactory. He has made some changes in the school system which are considered improvements. Term examinations for the promotions of pupils have been discontinued. The art and drawing work has received special attention and deserves mention. The departmental work in the seventh and eighth grades has been organized and tested. At the recent commencement exercises the largest class in the history of the school was graduated. It numbered forty-four.

The Pulaski County Normal will open at Winamac on July 12th, and continues six weeks, closing with the week of county institute. Professional review in all of the common branches will be given, and in addition, vocal music, algebra, psychology and other classes if called for. We understand that instruction will be given by County Superintendent J. H. Reddick, Superintendent A. T. Reed of the Winamac schools, Professor G. W. Reddick and Mrs. J. H. Reddick. It is interesting in connection with this note to observe that Professor A. T. Reed returns this year to his old position as superintendent of the Winamac schools, which he left a few years ago, in order to take a course in the State Normal School.

The thirty-fourth semi-annual meeting of the county superintendents of Indiana was held in Indianapolis June 16 and 17. The meeting was largely attended and it was remarkable on account of its great number of new members. The recent election resulted in the choice of sixty new superintendents over the state. It is safe to say that the body has not suffered in the change, for the new list includes a large number of remarkably bright men. The meeting was an enthusiastic one and some live questions were discussed. Mrs. E. E. Olcott of North Vernon, who is a popular institute instructor, addressed the meeting on "Nature-

Work in the Grades." There were several live discussions during the meeting. Probably those which yielded the largest enthusiasm were the addresses of State Librarian Henry on "Literature," and Secretary Bicknell and Superintendent Geeting on the "Compulsory Education Law." The meeting was considered a good one in every way.

The exercises connected with the Franklin College commencement occurred the week beginning June 4th. The missionary sermon was preached by Rev. J. W. Clevenger, Seymour, Indiana, and the baccalaureate sermon by President W. T. Stott. President Stott has been at the head of the institution for more than twenty-five years. He has given his life to the work of education and keeps abreast of all the movements in his special field of study. The alumni address was delivered by Hon. C. F. Remy of Indianapolis, the clerk of the supreme court. The commencement address was by Dr. W. L. Bryan of the State University. Dr. Bryan's address was a model of its kind and was well received. It is interesting to note in this connection that the college faculty have begun the issue of a quarterly magazine devoted to the interests of education in general, and of Franklin College in particular. It presents a neat appearance and the first number has several articles of interest and value.

The Indiana State Normal School has just closed its year with probably the most successful commencement that it has ever held. The attendance during the year has been very large, over 1,400 different students having been enrolled. The baccalaureate address this year was delivered by Rev. Sweeney of Columbus. This effort won the esteem of the entire student body, who regarded the address as instructive and inspiring. The class exercises by the graduating class were of a high order, and were in the nature of Shakespearian selections and characterization. The class of '97 is the first class that has finished the course under the four years term. At the regular commencement exercises on Friday, June 25th, Dr. Nicholas Murray Butler delivered the address. His subject was "Scientific Study of Education," and the address was a masterful effort and a great treat to those present. Dr. Butler has the happy habit of saying something when he talks. His address on this occasion was most appropriate and was full of the soundest pedagogical doctrine. He believes that the child must be studied physically, mentally, and that he must be educated for citizenship. In other words, that the teacher has a physical problem, a psychical problem and a social problem to solve. In his address he tried to unify the phases of this triple problem and succeeded ad-

mirably. The address was one in which the characteristic feature was sound common sense. President Parsons' address on the occasion was one that showed that he is a student of the present conditions of education and has the problem thoroughly in hand. The points that he presented were an overwhelming argument for the thorough maintenance of teachers' colleges by the state. Governor Mount was present and addressed the members of the class of '97. Governor Mount is known as a man of remarkable practical sound sense, and the remarks that he made upon this occasion were thoroughly in keeping with this trait of his. Captain W. H. Armstrong, president of the board, was very happy in his address to the class of '95, which had returned to receive the diploma which the school confers. All in all the commencement was a fitting close to a very successful school year.

The commencement exercises at the Indiana University this year were the most successful in the history of the institution. There were one hundred and eleven who received the degree of A. B., twenty LL. B., and thirteen A. M.

The senior class day exercises began the festivities on Thursday evening, June 10th. On Saturday evening was held the reunion of the class of '92. Sunday afternoon Rev. J. A. Rondthaler of Chicago, delivered the baccalaureate sermon, which was attentively listened to by an audience of twelve hundred. Monday afternoon the class of '72 and the class of '87 held their reunions. A remarkable fact about the class of '72 is that not one of its twenty-six members has died. In the evening Senator J. M. LaFollette of Portland, Ind., delivered the address to the senior law class. Tuesday morning, June 15th, at nine o'clock, was held the business meeting of the alumni. Hon. Edwin Corr was reelected trustee, and Hon. J. E. McCullough of Indianapolis was elected president of the association. At eight o'clock the alumni address was given by Superintendent Hiram Monical of the New Harmony schools, and this was followed by the alumni banquet. The commencement exercises closed Wednesday morning, when President Cyrus Northrup of the University of Minnesota, gave the address to the graduates, and President Swain conferred the degrees.

The year 1896-7 was a most prosperous one for Indiana University. The total attendance was nine hundred and forty-four, and the work in every department was unusually satisfactory. Every indication points to an increase in the attendance for the coming year.

There will not be many changes in the faculty for the year 1897-8. The University, as usual, is furnishing other institutions with teachers. Pro-

fessor E. P. Baillot, of the department of French, has been called to Northwestern University at an increased salary. Mr. Wissler, assistant in the department of psychology, will occupy a similar position in the Ohio State University. Dr. G. J. Peirce, assistant professor of botany, will go to Stanford. Mr. Rolla Roy Ramsey, assistant in the department of physics, will occupy the chair of physics in Westminster College.

Professor A. L. Foley received his Ph. D. degree from Cornell this month, and will have charge of the department of physics. Professor R. J. Alely, who received the Doctor's degree from the University of Pennsylvania, will be at the head of the department of mathematics next year. Dr. E. B. Copeland of the University of Wisconsin, will take Dr. Peirce's place. Professor E. B. Bryan of Butler University, will be assistant professor of pedagogy.

TEACHERS' AND YOUNG PEOPLE'S READING CIRCLES OF INDIANA.

The year just closed has been the most prosperous for both circles, since their organization. The teachers' circle has a membership of over 14,000. Hundreds of teachers took advantage of the teachers' reading circle examination, a very large increase over the preceding year, and, as a result, were exempt from examination in the *Science of Education* and *Literature* in the examinations for teachers' licenses this year. The indications now are that the number taking this examination July 17th will be much larger than a year ago.

The following, taken from page 478 of the report of the Superintendent of Public Instruction for 1896, will be of interest in this connection, and is quoted in full:

The State Board of Education, recognizing the many excellent features of the Circle, has offered liberal rewards to members in the way of credits on examinations for county and state licenses. The following orders of the Board are given for information of teachers:

Ordered, That the Reading Circle examinations in the Science of Teaching be accepted by county superintendents in place of the county examination on that subject, and that the average of their four successive yearly examinations in the Science of Teaching be accepted by the State Board in the examination for State Certificates—October, 1896.

Ordered, That the Reading Circle examinations in the General Culture book be accepted by county superintendents in place of the county examination in Literature, and that the average of their four successive yearly examinations in the general culture books be accepted by the State Board in the examination for state certificates.—May 14, 1896.

There has been a large growth in the number of teachers taking the Reading Circle examinations during the past four years. Since the State Board of Education has offered such great inducements all the teachers in the state should take these examinations in the future. Passing grades in the two Reading Circle books will exempt from examination in the professional and general culture books in examinations for both county and state licenses—a saving of one-fourth of the time and worry of the regular examination. This feature

alone, to say nothing of the educational advantages of the examination, will pay large returns for all time and effort put forth in the preparation.

The following course of reading has been selected for 1897-1898:

"Plato, the Teacher," edited by Dr. W. L. Bryan, of Indiana University, 90 cents, and Hinsdale's "Teaching the Language Arts," edited by Sarah E. Tarney-Campbell, Assistant Superintendent of the Anderson Schools, 70 cents. The former of these books is published by Chas. Scribner's Sons, New York, and the latter by D. Appleton & Co., Chicago. Any one desiring the books can secure them from the county superintendent after July 15th.

The Young People's Circle has a membership of over 205,000, with more than 400,000 books read. Madison County heads the list this year with a membership of 8460, followed by Wabash with 7099, Grant with 6115, Elkhart with 5897, Henry with 5235, Marion (outside of Indianapolis) with 5206, Vigo with 4584, Clay with 4500, Noble 4365, Delaware (outside of Muncie) 4201, and Howard with 4125. Several counties report over 8000 and many more over 2000. Noble County shows the greatest growth during the past year. Terre Haute, with 1470 members, has the largest membership of any city yet reported. Many of the districts and small town schools in the state have libraries of from 50 to 800 volumes. In many communities the parents are reading and contributing something toward purchasing new books each year. There has been a very marked growth in this Circle as shown by the increased number of books placed in the schools, the number of young people reading the books and the number of parents and others reading and contributing to the purchase of new books.

The following is a list of the Young People's Reading Circle books for the year 1897-8:

	Price by mail.	Price by frt. or ex.
FOR SECOND YEAR PUPILS.		
Seed Babes, Worley	\$.27	\$.24
Some of Our Friends, Welsh . . . . .	.25	.20
Stories of Bird Land . . . . .	.25	.20
FOR THIRD YEAR PUPILS.		
A Child's Garden of Verses, Stevenson . . . . .	.75	.70
Revolutionary Pioneers for Young People . . . . .	.32	.28
All the Year Round—Spring, Strong . . . . .	.84	.28
FOR FOURTH AND FIFTH YEAR PUPILS.		
Three Colonial Boys, Tomlinson	1.04	.90
The Patriot School Master, Butterworth	1.02	.90
The Making of the Ohio Valley States, Drake . . . . .	.95	.85
The Young Reporter, Drysdale	1.00	.88
FOR SIXTH AND SEVENTH YEAR PUPILS.		
Crowded Out O' Crowfield, Stoddard	1.02	.90
Boy Travelers in China and Japan, Knox	1.10	.98
Midshipman Farragut, Barnes . . . . .	.70	.62
FOR EIGHTH AND ADVANCED YEAR PUPILS.		
Shakespeare, The Boy, Rolfe . . . . .	.95	.85
In Birdland, Keyser . . . . .	.74	.67

The above books may be obtained from George F. Bass, Mgr., 108 Commercial Club Building, Indianapolis, Ind.

F. A. COTTON,
Secretary Indiana Teachers' and Young People's Reading
Circles.

AMONG THE CHILDREN.

Two boys were playing together, and a dispute arose as to the length of the battle of Shiloh. John said it lasted two days, and Frank contended that it lasted two years, saying: "I can prove it

by my mother; I guess I ought to know any how—my grandfather picked a sword up off the war."

* * * *

A four-year-old boy took dinner with the family of a neighbor; the head of the family is a deacon, and said grace; upon being asked if they had grace at his home, the youth replied: "No, we have beer."

* * * *

Mary is a little past two years of age. When in trouble she gets a great deal of solace from sucking her left thumb. Mary has a new sister who cries sometimes; when the baby was in trouble and crying, recently, Mary came to her and said: "Sissy, suck o' fum."

* * * *

Martin goes to school and was recently detained after school hours. He said he was kept to write the word "disorderly" two hundred times.

* * * *

John also goes to school, and he said that the other day one of his teachers told one of the boys that "she would take him out in the hall and thrash him till his daddy and mammy wouldn't know him."

* * * *

A kindergartner, upon being told that his mother's friend, Miss Bell, was a week older than his mother, said: "Well, mamma, if Miss Bell had come to see you, you wouldn't have been here, would you?"

* * * *

Kindergartner—"Father, what makes the stars stay in the sky?"

Father—"O son, I can't tell you that."

Kindergartner—"Well, father, why can't you tell? Is it because you don't want to, or because you don't know?"

* * * *

Another kindergartner, upon being asked how he enjoyed his lunch, exclaimed: "Oh, fiercely."

* * * *

We heard the children recently "counting out" in their games and they said:

Äkä, bäkä, böna, cräkä,

Äkä, bäkä, doose;

A, b, butter bread,

A—b—doose.

We used to say:

Onery, öry, ickry, an,

Philisen, Phölisen, Nicholas John;

Queevy, quävy, English navy,

Stinkum, stankum, buck.

Or:

William Metrimity

He's a good fisherman;

He catches hens

And puts them in pens;

Some lay eggs,

And some lay none.

Wire, brier, limber lock,

Three geese in a flock;

One flew east, one flew west,

One flew over the cuckoo's nest.

CHILD-STUDY CONGRESS.

THE BLOOMINGTON MEETING.

At Bloomington, Indiana, on May 5, 6, and 7, the second Child-Study congress occurred. This was held under the auspices of the Indiana Society for Child-Study. Only one of the sessions, however, was under the direct charge of the Indiana Society. The opening session was on the afternoon of May 5th. It was held in the fine audience room belonging to the new gymnasium. Appropriate addresses of welcome were made by the Mayor of the city and by President Swain. The program indicated that Superintendent Geeting would give the response. On account of sickness in his family he was unable to be present, and Superintendent Carr of Anderson, gave in his stead a fitting response. Four persons were upon the program of the evening. These were Professor G. T. W. Patrick, University of Iowa, Professor Howard Sandison, Indiana State Normal, Professor W. O. Krohn, University of Illinois and Professor C. H. Thurber, University of Chicago. Of these, however, Professor Patrick and Professor Krohn were necessarily absent.

Professor Sandison gave the first address of the evening. His subject was, "The Relation of Child-Study to the Common School Teacher." In speaking of this relation the various movements that have occurred in the history of the world, such as the Crusades, the "Object Lesson" movement, etc. were noted for the purpose of showing that the child-study movement has as its center of interest a subject exceeding in importance all the others—the child. The address further showed that the movement is not new—that all great thinkers have to a greater or less extent instituted forms of child-study, or at least indicated its importance. As to the scope of work in child-study the address set forth that there were three main lines.

First. Investigations strictly scientific in their nature. The child is as legitimate a being for scientific investigation as is a plant, or any other object of nature. This line of investigation, however, bears a very slight relation to pedagogy.

Second. Experiments in the laboratory, and collection and examination of reports from various sources in order to derive from such material inferences and conclusions that may afterwards be expressed in the form of reports and pamphlets. These being placed in the hands of teachers become direct aids in pedagogy.

Third. Direct observation upon the children by teachers in the various rooms. This was shown to be a kind of work in which the common school teacher could obtain results better than any one not so intimately acquainted with the children

Suggestions were made as to the processes in these observations, and as to the care to be taken in order to secure accurate results.

The address closed with several illustrations as to work which could be done in one room, or extended over a large range.

The second address of the evening was given by Professor Thurber of the University of Chicago. Its main purpose was to show the important bearing of environment upon the disposition of the child. In illustration of this Professor Thurber gave a large number of interesting and suggestive reports from various districts in the state of New York. Some of these reports were from the farming communities, others from regions in which fishing was the main industry, others from fashionable resorts, etc. The test made, according to the address, was the obtaining of answers to this question: "What would you wish to do when you are grown up?"

On Thursday forenoon at 9:30 occurred a Round Table meeting of the Indiana Society for Child-Study. At this meeting Professor Sandison presided. Helpful and interesting addresses were given by Superintendents Wm. A. Millis of Attica, W. H. Sanders of Rensselaer and B. F. Moore of Frankfort. Addresses were also presented by Miss Myrtle S. Smyser of Indianapolis, and Mrs. Sarah Tarney-Campbell of Anderson. The addresses were, to a degree, in reply to the various questions that had been sent up by the members of the Indiana Society for Child-Study. Circulars containing these questions were distributed in the audience. The addresses were very helpful in indicating the needs of Indiana teachers concerning child-study as viewed from the standpoint of actual workers in the schools. Prior to the presentation of these addresses a short business session of the society was held. In this session two actions were taken. The first was one agreeing to unite with the general society for child-study—the American Society—that was organized at the congress in Chicago. In connection with this action it was decided that the membership fee for the Indiana Society should be fixed at fifty cents.

The second action was one directing the secretary to forward to each member the hundred or more questions that had been handed in by the members of the Society, with a request that any member knowing books or pamphlets relating to the questions should notify the secretary, and that thereupon, having collected all these answers, the secretary shall issue a new pamphlet giving the information concerning the pamphlets that would be helpful in answering the questions.

On the afternoon of Thursday at two o'clock the third session of the congress occurred. The speakers were Col. F. W. Parker of Chicago, Dr. C. C. Van Liew of Bloomington, Illinois. Superintendent Busby of Alexandria, was the presiding officer.

The first address was that of Col. Parker. His subject was, "The Ideal School." He began by asking all parents, "What do you want for your Children?" In answer he replied, "I suppose you want, first, health; second, helpfulness; third, truthfulness; fourth, responsibility; fifth, taste; sixth, adaptation to a vocation; seventh, patriotism. Each of these points was elaborated.

The speaker then proceeded to ask "Where can the children get these things?" The answer was,

"In the ideal school." In repeating the question, "Why do you send your children to school?" Col. Parker presented a series of answers which he regarded as the usual ones. Among these was the answer, "To get knowledge." The inadequacy of this answer was then fully and ably discussed. Beginning with the earliest educators the speaker passed down the line of great workers in succession, indicating the principle of each one of these and the limitation found in it. He also showed that under monarchical government these educators found even their limited principle given only a partial sway. In America, however, he claimed that a new principle embodying the elements of the principles of the great thinkers in the entire line of education could be worked out adequately.

In concluding his address the speaker said: "What is the end and aim of education? I hold there is one. It is freedom. The ideal school is an ideal community. The child is a citizen in it, giving his best and receiving from the teacher all valuable that it can confer. In this community there is to be nothing to restrict the child but himself. The child's great desire is to be recognized—to be useful. Educate this longing and you have power. Community life is the end." It was a very able and interesting address.

Dr. Van Liew, secretary of the Illinois Society for Child-Study then spoke briefly upon certain important lines in the child-study movement. He dwelt mainly upon the great importance of understanding the child's previous history and present environment in order to direct his future work. He set forth very clearly certain modes of procedure helpful in acquiring knowledge in these two directions.

Thursday night at 8 p. m. the fourth session of the congress occurred. Superintendent Goss of Indianapolis, was, according to the program to preside. In his absence, however, the presiding officer was Dr. Bryan of the State University. The principal speaker of the evening was President G. Stanley Hall of Clark University, Worcester, Mass. His subject was "Adolescence." He showed the importance of the period, its intimate relation to the future pursuits of the individual, to his language, to his religious life, and to courses of study. Throughout the evening the large audience followed with the closest attention and with great interest the able address.

At the conclusion of this address Professor W. O. Krohn of the University of Illinois, was introduced. He began his address by speaking of the difficulty coming to the one who follows a king. Professor Krohn is a clear and forcible speaker. His manner is earnest and he impresses the audience as one who is at home in the subject. In his brief address he brought out two thoughts; one concerning the importance of the study of precocity in children, the other relating to the value of tests that may be made in the laboratory in order to decide whether the child in beginning work in any subject should deal with concrete wholes rather than with details.

At the conclusion of this session the faculty of the Indiana University tendered the delegates of the congress and the visitors a reception in the beautiful new library. This was very pleasant and was highly appreciated.

Friday, May 7th, was the last day of the congress. On this day two addresses were given.

They were both by President Hall. The first occurred at 10 A. M. This address was one of the most valuable and interesting of the congress. The subject was "Nature." The point of the address was to show that nature was the source of science, art and religion. According to the address the child was to approach the subject of science, strictly so considered, through certain mythological stages. Thus, the passage from his early conceptions concerning religion, and his mythological conceptions concerning his own round of experiences, etc., would be natural. Each of the propositions was carefully and fully illustrated.

The closing address of the session, occurring at two o'clock in the afternoon, had as its subject "The Body." In this address President Hall showed the intimate relation of the bodily condition to all forms of mental life and progress.

Thus closed the first session of the Child-Study Congress in Indiana. It was felt by all that the congress was a very successful one. It was the season of the year when Bloomington appears to best advantage. The citizens of the city, the students of the University and the members of the faculty all seemed to contribute cheerfully and willingly to render the congress successful and pleasant. It seems clear that this congress will give an impetus to the Child-Study movement through indicating various valuable lines of work.

BOOKS RECEIVED.

HENRY BOLT & COMPANY: New York.

Lyrical and Dramatic Poems. Selections from the works of Robert Browning. Edited by Edward P. Mason. Price 60 cents.

Selections from Loti. Price 70 cents.

Sand's Mare Au Diable. Price 40 cents.

CHAS. SCRIBNER'S SONS: New York.

An Illustrated Flora of the Northern United States, Canada, and the British Possessions. By Nathaniel Lord Britton, and Hon. Addison Brown. In three volumes. Volume II. Price \$3.00.

AMERICAN BOOK COMPANY: New York, Cincinnati, Chicago.

Die Journalisten. A comedy in four acts. Gustav Freytag. Edited by J. Norton Johnson. Boards 12mo., 171 pages. Price 85 cents.

Curtiss's Semi-Vertical Copy Books. A new system of free hand writing. C. C. Curtiss, late principal of the Curtiss colleges of Minneapolis and St. Paul. Six books. Price per dozen 96 cents.

Stories from the Arabian Nights. Selected and edited by M. Clark. Linen, 12 mo., 271 pages, illustrated. Price 60 cents.

Story of Troy. M. Clark. Cloth 12mo., 266 pages, illustrated. Price 60 cents.

It is remembered of Lowell that at a dinner, a few years ago, he talked about his first book, the five hundred copies of which did not sell, and were put away in a lumber-room. One night the lumber-room was found in a blaze, and the books were destroyed. "I learned recently," added the poet, "that a copy of that first book is worth thirty dollars, and, in view of this fact, the advice that it seems most fitting that I should give to all literary folk is to burn their first books.—*Ex.*

GINN & COMPANY, PUBLISHERS.

The house of Ginn & Company, the well-known school-book publishers, has for many years been second to none in the educational value of its books, and in the short space of a little over a quarter of a century has grown to be the largest single school-book house in America. It has branch offices in New York, Chicago, Columbus, Atlanta, Dallas, and London.

The "Athenæum Press" is a large five-story building, located in Cambridge, Mass., devoted exclusively to the printing, binding, and shipping of the firm's publications. In this model building may be seen the most improved machinery known to the printing and binding business. The wonderful and costly machines placed on every floor of this building demonstrate the remarkable ingenuity and mechanical skill of the present age. The output of the "Athenæum Press" is at present ten thousand volumes per day, and its capacity is for double that number.

It has been the aim of this firm to make a careful study of the problems of education and to spare no pains to secure the best editorial talent possible. Its list now includes books by the leading educational men all over the country, and in almost every town in the United States some of Ginn & Company's publications are used.

The text-books of this firm rank as peers of any in the world. The high schools and colleges throughout the country use extensively its publications, and the lower schools use an enormous number of them, such as Frye's Geographies, Montgomery's Histories, Cyr's Readers, Wentworth's Mathematics, Blaisdell's Physiologies, Classics for Children, Stickney's Readers, Tarbell's Language Lessons, and many others.

INDIANA STATE BOARD QUESTIONS FOR JUNE, WITH DISCUSSIONS.

GUIZOT'S HISTORY OF CIVILIZATION.

(Any five.)

1. Name the elements, or ideas, at strife in primitive European civilization.
2. What was the primitive and genuine form of society in Europe?
3. What conflict of ideas, and what principle in State life are the outcome of these conflicting elements?
4. Explain political legitimacy.
5. Name the classes of persons in the civilization of the mediæval age. Were the classes fixed?
6. What was the condition of property at this time? The institutions?
7. Mention the causes of the barbarism of the age.
8. Give the causes leading out of barbarism.

1. The elements or ideas at strife in primitive European civilization were:

a. The idea of monarchy; b. The idea of aristocracy; c. The idea of theocracy; d. The idea of democracy.

2. The primitive form of society in Europe was not a pure form of any one of the above named ideas, but more or less a mixture of them all. In certain places and at certain times in primitive Europe one idea would be more predominant, and at another time another.

3. A conflict of ideas which arose in primitive European history was a conflict between the ideas of democracy, monarchy, aristocracy and theocracy, each one of them trying to gain a mastery over each one of the other. The result of this trouble

was a continual stimulation on the part of each one, and this stimulation resulted in producing continual progress; hence it is out of the conflict of ideas that the progressive life of modern times has arisen.

4. By political legitimacy is meant the right of any authority to rule and control society. The true basis of political legitimacy is right, justice, and reason, but no government has arisen that did not exercise at times force, and sometimes fraud in order to establish itself. But the longer the government existed the greater would be the presumption that it grew more reasonable and just.

5. The classes of persons in the civilization of the mediæval age were:

First, the lords; second, free men; third, freed men; fourth, vassals; fifth, slaves.

These classes were not fixed, but were continually changing from one state and condition to another. This was a material assistance of progress.

6. The condition of property at this time was very unfixed. Some of it was held without any obligations attached to it, very much as property is held by the ordinary farmer in Indiana who owns his land. This was called "allodial possession." By far the greater portion of it was held on the condition that the holder would render certain service, and pay certain duties or taxes, to the one of whom he held it. This was called beneficiary holding.

The institutions at this time were very unsettled, and were constantly changing from one state to another.

7. The causes of the barbarism of this time were principally two:

First, the Germans were such great lovers of individual liberty that they were unwilling to establish themselves quickly in permanent and settled government; second, the Germans coming down from the North overturned the stable governments established by the Roman Empire, and for a long time new and permanent governments did not arise.

8. The causes leading out of barbarism were:

First, the natural tendency of society to improvement; second, the power of Roman ideas that gradually gained influence over the Germans; third, the excellent ideas of liberty, and the worth of the individual which was held by the Germans; fourth, the influence of some great men, such as Charlemagne and Alfred the Great, who lived during these ages.

SCIENCE OF EDUCATION.

(Any five.)

1. What is meant by the comparative method of studying psychology?

2. What are the advantages of studying the mind of the infant and of the child before the school period?

3. Explain how it is that sensation lies at the foundation of all mental development.

4. State some of the most important facts in regard to the sight of young children.

5. As a rule, when children enter school at about six years of age, what is the character of their sense perceptions?

6. If a teacher of children has studied carefully the characteristics of children, what use would he make of this in his work?

7. What advantages would result from making the child's school life a close continuation of his home life?

1. By the comparative method of studying psychology is meant that mind in the adult may be compared with the consciousness of animals, of children in various stages, of defective and disordered

minds, of mind as it is shown in the various conditions and times of the race, nationality and institutions.

2. By studying the mind of the infant and of the child before the school period one may learn how it has come to be what it is and may know its present mental content. The child's mind at school age is already a complex thing, and the teacher should know how it has come to this complexity. Then the teacher must understand the mental content of the child when he enters school, because this must be his point of departure.

3. Mind is closely related to nervous change. So far as we know the large part of one's knowledge comes from the outside world. This comes through the senses, and so sensation must lie at the foundation of mental development.

4. The normal eye is a perfect optical instrument. It feeds upon light. The light conditions should be perfect for the child or the sight becomes defective easily. Intense continued application soon strains the eye and defects result. Proper conditions and careful usage are necessary.

5. As a rule when children enter school their sense-perceptions are perfect. They should be kept so.

6. He would see in the child the ground for everything he does as a teacher. He would make the school for the child and not for the teacher.

7. On the basis that the home life is all right it would bring the home and the school into harmony; when both institutions work for the same end and help each other much good will be accomplished. But the trouble lies in the home life about as often as it does in school life.

READING.

1. Why is the formation of the mental picture an essential step in every reading lesson? What other step is also essential? 10

2. What is literary language? Why should a pupil be made sensitive to all the points of beauty in the language? 10

3. Present, in full detail, the imagery of the "Vision of Sir Launfal," and state the separate truths mirrored by the different parts of the imagery. 30

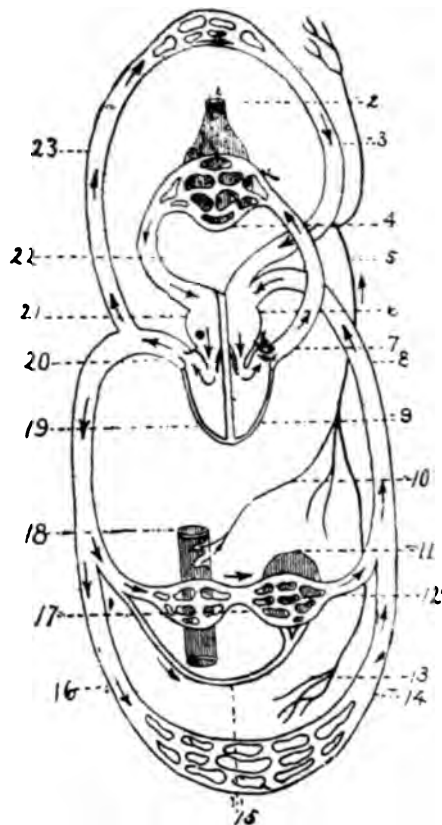
4. Read a selection, chosen by the County Superintendent. 50

1. The image is the author's concrete means of expressing his meaning. It is always necessary to "look through" the image to its informing idea.

2. Literary language is language that appeals to the mind by its beauty. This beauty of expression is one of the essentials in the art product, and can not be missed without breaking the unity of this product.

3. It is possible in the space at our disposal to note only a few of the more striking points in the imagery. The two preludes, with their contrasting features, stand out prominently. In the first is found the exuberant joy of the happy spring-time, when all life seems perfect. This external happiness of Nature stands over against the chill and lack of sympathy in the castle and in Sir Launfal. In the second prelude the external conditions are dreary, bleak and shuddering, but there is the perfect activity of the brook beneath, while the Christmas fires burn within the castle and the light of Christian love fills Sir Launfal's heart. "The picture as a whole, through the contrast of its parts, reflects the soul's freedom from the external conditions of life, as having its own inner source of life and light."

PHYSIOLOGY.



Guided by the above figure describe the circulation of the blood, state its functions, the chemical and physical changes that take place in it during its circulation, and where the changes take place.

HISTORY.

(Any five.)

1. In what instance has the consideration of "availability" prevailed over other qualifications and claims in the selection of party candidates for President of the United States?
2. Upon what grounds did the Commission decide against Great Britain in the Geneva Award?
3. What of good and what of bad did Andrew Jackson leave in American public life?
4. What can you say of the attitude of Horace Greely toward Abraham Lincoln from 1858 to 1865?
5. Discuss the history work for the first six years as outlined in the State course of study.
6. What were the chief measures during the administration of Hayes?

1. In the main "availability" has prevailed over other qualifications and claims in the selection of party candidates for the presidency of the United States ever since the time of Martin Van Buren. Since that time candidates have been chosen more with regard to the ability they would have of carrying certain sections of the country in the election than because of their transcendent ability.

2. The ground upon which the commission decided against Great Britain in the Geneva Award case was, that Great Britain had not used "due diligence" in preventing her ships from assisting

the Southern Confederacy during our late Civil War.

3. a. Andrew Jackson gave to American public life the example of a strong, patriotic character.

b. He strongly asserted the authority of the nation when South Carolina proposed to nullify a national law.

Some of the more important bad effects which resulted from his life were:

a. Arbitrary and unfair treatment of the Indians; b. The destruction of the United States banking system for the time being; c. The introduction of the Spoils System.

5. The history work of the first six grades is divided into two parts: first, the part dealing mainly with biography covering the first four grades; second, the part dealing with the history of small communities covering grades five and six. The first part, primary history, tries to introduce the child to the idea of history through the lives of representative men of various countries and ages. And the second part takes up the next simplest unit of history, a community, and studies its life, its education, government, religion, social usages, industry.

6. The chief measures during the administration of Hayes were:

First, the completion of the policy of the Reconstruction of the South by the withdrawal of the national troops from the Southern states; second, the great industrial expansion of the West by the building of new railroads and opening up large grain fields and large mines; third, the holding of the Centennial exposition at Philadelphia.

GRAMMAR.

1. The name that dwells on every tongue,
No minstrel needs.
a. Classify the sentence on two bases. Give reasons.
b. Classify the words in the sentence and state the use of each. What is the basis upon which you divide the words into classes?
2. What is the difference between an adjective and an adverb? Illustrate.
3. Write a sentence containing a restrictive clause; a sentence containing an explanatory clause. Explain the difference between them.
4. The school was dismissed for the holidays. The school were not all present. Are these sentences both correct? Why?
5. Use the principal parts of the verbs *make*, *sit*, *lay*, *ride* and *write* in sentences.
6. Punctuate and capitalize: emulation is a dangerous passion to encourage in some points in young men it is so linked with envy if you reproach your son for not surpassing his school fellows he will hate those who are before him.

1. On basis of effect produced upon the mind or meaning, it is a declarative sentence because it expresses a thought addressed to the mind for the purpose of giving information. On basis of form or number and relation of thoughts expressed, it is a complex sentence because it expresses one principal thought and one subordinate thought. The words, "the," "every," and "no" are adjectives and they modify the words, "name," "tongue," and "minstrel," respectively. The words "name," "tongue" and "minstrel" are nouns. The word, "name," is used as a direct objective modifier of the verb "needs." The word "tongue" is used as the principal part of the prepositional phrase "on every tongue." The word, "minstrel" is used as the subject of the verb "needs." The word "that" is a relative pronoun used to show the relation between the principal and the subordinate thought, and as the sub-

ject of the verb "dwells." The word, "dwells" is a verb used as the principal part of the predicate of the subordinate clause. The word, "needs" is a verb used as the principal part of the predicate of the principal clause. The word, "on" is a preposition used as the relation word of the prepositional phrase.

These words are divided into classes on the basis of the ideas expressed by them.

2. An adjective expresses an attribute of the object of thought without asserting it. It may modify a substantive word; e. g., The *large* apple is ripe. Or it may be used as the predicate of the sentence; e. g., The tree is *green*.

The adverb always expresses an attribute of an attribute or of a relation; it always modifies an attributive word; e. g., The man is *exceedingly* kind, or a relation word; e. g., Henry is *almost* over the ocean.

3. A restrictive clause is a clause whose chief purpose is to narrow the application of the word which it modifies; e. g., The man *who loves good books* will always have good companions.

An explanatory clause is one whose chief purpose is to make prominent an attribute; e. g., Lincoln, *who was martyred*, saved his country.

4. The sentences are both correct, because the word "school" is a collective noun. In the first sentence we are thinking of the object of thought expressed by the word "school" as a unit, or a one thing, so the verb should be singular. In the second sentence we are thinking of the individuals composing the school separately, so the verb should be plural.

5. (a) I make a noise. (b) He made a noise. (c) They have made a noise.

(a) I sit at the table. (b) He sat at the table. (c) They have sat in their places a long time.

(a) I lay the book on the table. (b) He laid the book on the table. (c) They have laid the book on the table.

(a) I ride my wheel. (b) He rode his wheel. (c) They have ridden their wheels.

(a) I write a letter. (b) He wrote a letter. (c) They have written a letter.

6. Emulation is a dangerous passion to encourage; in some points in young men, it is so linked with envy, if you reproach your son for not surpassing his school fellows, he will hate those who are before him.

GEOGRAPHY.

(Any six)

1. What natural conditions favor the development of manufacture? What natural manufacturing conditions does Indiana possess?

2. Why does California have wet and dry seasons, similar to the seasons of the Torrid Zone?

3. What important agricultural products has America contributed to the world?

4. What effect have the Andes Mountains on the climate of Brazil? Why?

5. What province of British America is especially noted for its wheat product? What is the capital of this province, and upon what river is it situated?

6. Why is the eastern part of Europe colder than the western in the same latitudes?

7. Locate the following cities, and tell for what each is noted: Glasgow, Liverpool, Manchester, Birmingham, Belfast.

8. What waters embrace the Spanish peninsula? Why is the interior of Spain so sparsely inhabited?

9. Through what waters would you pass in the shortest all-water route from Liverpool to Bombay?

10. Why are rivers so large as the Obi, Yenisei and Lena of so little commercial importance?

1. Water power, fuel, easy access by land and

water, soil and climate unfavorable for agriculture. Coal, gas, oil and timber.

2. In the winter the southwest winds blow from the ocean over the cooler land, in the summer over warmer land.

3. Corn, potatoes and tobacco.

4. They cause heavy precipitation in Western Brazil. Because they turn the trade-winds upward, which produces condensation.

5. Manitoba, Winnipeg on Red River.

6. On account of the influence of the southwest winds blowing off the Gulf Stream.

7. Glasgow on the Clyde in Southwestern Scotland: steel ship-building, sugar refining. Liverpool on the Mersey in Western England, the second seaport of Great Britain: controls the American trade. Manchester, thirty-five miles from Liverpool: cotton manufacture. Birmingham in central England: steel, iron and hardware manufacture. Belfast in Northern Ireland: linen industry.

8. Bay of Biscay, Atlantic Ocean, Strait of Gibraltar, Mediterranean Sea. It is a high, arid and unproductive plateau.

9. Mersey River, Irish Sea, St. George's Channel, Atlantic Ocean, Strait of Gibraltar, Mediterranean Sea, Suez Canal, Red Sea, Strait of Babel-mandeb, Gulf of Aden, Arabian Sea.

10. They empty into the Arctic Ocean, and are ice-bound the greater part of the year.

ARITHMETIC.

1. Simplify $\frac{6\frac{3}{4}}{\frac{5}{11}}$

2. A room is 20 feet long and 17 feet wide; which way must the strips of carpeting, one yard wide, run, in order to carpet the room most economically, allowing no waste for matching the pattern? What is the least number of yards that will carpet the room?

3. What per cent of $\frac{1}{2}$ is $\frac{1}{4}$?

4. The interest of \$95.40 for 3 years and 9 months is \$28.627. What is the rate?

5. In what respect do the mental processes in written arithmetic differ from those of oral arithmetic?

6. What sum of money, put at interest June 1, 1885, will amount to \$522, December 1, 1892, at 6 per cent?

7. Find the number of board feet of lumber required to floor a dock 36 feet long, 17 feet wide, the planks being $2\frac{1}{2}$ inches thick?

8. How many rods of fence will be required to enclose a field in the form of a right angled triangle whose area is $13\frac{1}{2}$ acres, and whose base is 45 rods?

9. How many cords of wood in a pile 164 feet long, 16 feet wide, 30 feet high?

10. How does the arithmetic work in the first three years of the State Manual suit the needs of the schools at this time? Give a brief outline of this work.

$$1. \frac{6\frac{3}{4}}{\frac{5}{11}} = \frac{\frac{27}{4}}{\frac{5}{11}} = \frac{27}{4} \times \frac{11}{5} = \frac{297}{20} = 14\frac{17}{20}$$

2. To lay the carpet the long way would require 6 strips each 20 feet long or 120 feet of carpet. To lay it the short way would require 7 strips each 17 feet long or 119 feet. The latter is most economical and will take $39\frac{1}{2}$ yards.

$$3. \frac{\frac{1}{4}}{\frac{1}{2}} = \frac{1}{4} \div \frac{1}{2} = \frac{1}{4} \times \frac{2}{1} = \frac{2}{4} = \frac{1}{2} = 50\% \text{ per cent.}$$

4. The interest of \$95.40 for 3 years, 9 months at 1% would be \$3.5775. $\$28.62 \div 3.5775 = 8$. \therefore the required rate is 8 per cent.

5. The mental processes themselves do not differ. In the written work perhaps the steps are thought more in detail so that the expression may be more explicit.

6. From June 1, 1885, to December 1, 1892, is 7 years, 6 months. One dollar put at interest for that time amounts to \$1.45 \therefore the required principal is \$522, $\div 1.45$ or \$360.

7. $36 \times 17 \times 21 = 1330$ board feet required.
 8. $13\frac{1}{2}$ acres = 2100 square rods.
 $(2100 \div 2) \div 48 = 100$, altitude of the triangle.

$$\sqrt{48^2 - 90^2} = 102, \text{ hypotenuse.}$$

$$102 \times 48 = 4896 - 102 = 4794 \text{ rods of fence.}$$

9. $\frac{164 \times 16 \times 30}{128} = 615 \text{ cords.}$

SCIENTIFIC TEMPERANCE.

Any five.

1. Are the effects of alcohol the same on different individuals? Illustrate.
2. Name some of the perceptible effects on the bodily tissues of large single draughts of alcohol.
3. State the effects on the system of continued immoderate drinking.
4. Is one justified in drinking tea or coffee to relieve fatigue? Why?
5. What ground is there for the statement that the appetite for intoxicants may be inherited?
6. Some say that the smoking of an old pipe is more injurious than the smoking of a new one. Is there any ground for this statement?
7. In teaching this subject would you advise the teacher to lay the greater stress on the physiological or moral phase of the question?

KENTUCKY STATE UNIFORM QUESTIONS,
WITH DISCUSSIONS.

HISTORY.

1. Divide United States History into five or more periods and give a brief history of each period.
2. What was the true history of the Louisiana purchase? What secret motive actuated each party to the transaction? Be specific in your answer.
3. Give some estimate of the statesmanship of Hamilton and Clay.
4. Relate the story of the Liberty Bell.
5. Name three important events under each of the last two administrations, namely, Harrison's and Cleveland's.
6. Write a short account of the Mexican War, giving causes, principal battles, results, etc.
7. Name three battles of the Revolutionary War and describe the siege of Yorktown.
8. Give a short sketch of the early settlement of Kentucky, her admission into the Union, etc.
9. Give a brief account of the first battle of Bull Run or Manassas Junction.

1. (1) The Revolutionary Period, commencing with the Declaration of Independence and including the struggle with Great Britain that ended with the treaty of peace signed at Versailles in 1783. (2) The Period of Confederation during which the states were trying to agree upon a satisfactory form of government for the young nation. (3) The Period of Development that began with the adoption of the Constitution in 1789. This was a period of marked growth and of extension in territory. (4) The Civil War Period, 1861-1865 during which the perpetuity of the Union was tested and the abolition of slavery was accomplished. (5) The Period of Reconstruction which restored the seceding states to their original place in the Union.

2. The United States feared that a war which was threatened between England and France would give Louisiana to England, and that this might lead to new difficulties with the mother-country. On the other hand, Napoleon not only wanted money but he also wished to strengthen the United States as a rival of England.

3. Hamilton's statesmanship was of high order. His numerous papers in *The Federalist* helped much

toward securing the adoption of the Constitution, while to him more than to any other is due the credit of establishing the financial system of the United States. Clay was a "Peace-maker." He had great ability in harmonizing discordant factions, and his various compromise measures doubtless deferred for years a conflict that was inevitable.

4. The bell which rang out the announcement that the Declaration of Independence was signed, though cast as early as 1753 had around its margin the scripture quotation "Proclaim liberty throughout all the land unto all the inhabitants thereof." The bell was taken down from the belfry of Independence Hall before the close of the Revolutionary war, and, though cracked, it is kept with great care, and sometimes exhibited at national exhibitions.

5. The McKinley Tariff Act and reciprocity complications with Chili; recognition of the Republic of Hawaii. Repeal of the Sherman law for the purchase of silver; the issue of bonds for the purchase of gold; the Venezuela controversy.

6. The annexation of Texas involved the United States and Mexico in a dispute over territory, and war ensued, lasting from April, 1846, to September, 1847. Palo Alto, Resaca de la Palma, Buena Vista, Cerro Gordo, Churubusco, Molino del Rey, and Mexico were the important battles. By the treaty of Guadalupe Hidalgo in 1848, the United States paid Mexico \$15,000,000, and received all those portions of New Mexico, Arizona, California and Utah that were claimed by Mexico.

7. Long Island, Saratoga, Stony Point. Washington made a pretense of going to New York, and thus led Clinton to believe that it was not necessary for him to join Cornwallis. Meanwhile the American commander-in-chief hastened to join Lincoln, and Cornwallis was so completely hemmed in at Yorktown that after a three days' siege his whole army surrendered, October 19, 1781.

8. Kentucky, originally a part of Virginia, was settled by James Harrod at Harrodsburg in 1774, and by Daniel Boone at Boonesborough in 1775. In 1776 Kentucky became Kentucky county of Virginia. A separate government was desired, but being refused, there was some talk of an independent republic, and some also of alliance with Canada. The state was admitted to the Union in 1792, and stood closely by Virginia in presenting the "Kentucky and Virginia Resolutions."

9. Bull Run was the first great battle of the war. It was fought July 21, 1861. General Beauregard commanded the confederate army of 30,000 men, and General McDowell commanded nearly as many Union troops. The fighting was fierce for six hours, and though the Confederate troops were broken they were rallied by General Jackson, and the result was a decided Confederate victory.

CIVIL GOVERNMENT.

1. What is the name of the legislative body that makes the laws of Kentucky? How many branches of it? What their names? What is the term of office of each? When does this body meet? How often?

2. Give the salient points of the Hiles Compulsory Educational Law. Are you in sympathy with its enforcement? Explain fully.

3. Mention three powers conferred upon the House of Representatives but not upon the Senate, and an instance from history of the exercise of these powers.

4. Give the necessary qualifications before a person can become President of the United States.

5. How are judges of the Federal courts appointed to office? For what time? Why?

6. State in how many different ways a bill may become a law when passed by the Kentucky Legislature. By the Congress of the United States.

7. Explain fully what is meant by "congress." For example, what do you mean when you speak of the 52d Congress?

8. State what qualifications are necessary for a person to become County Superintendent? School Trustee?

9. How will you interest your class in the study of civil government? How will you use it as an aid in developing patriotism?

1. The General Assembly. Two, Senate and House of Representatives. Senators four years, representatives two years. Biennially, on the first Tuesday after the first Monday in January of the even years.

2. (a) Children between the years of seven and fourteen must attend school eight weeks consecutively, annually. (b) Fine of \$5 to \$50 for guardian's neglect to comply with the law, and fine of \$10 to \$50 for trustees' neglect to prosecute. Yes, for while not an ideal law, it is a step which will educate public sentiment. It needs a truant officer to enforce it, and better school accommodations.

3. The House has the sole power of impeachment, and it was exercised against Aaron Burr in 1807. All bills for raising revenue must originate in the House. The present Dingley bill is an example. If the electors fail to choose a president of the United States as provided by the constitution the House must do so. This power was exercised in 1801 when Thomas Jefferson was elected.

4. He must be a natural born citizen of the United States, must be thirty-five years old and must have been for fourteen years preceding his election a resident of the United States.

5. By the president with the concurrence of the Senate. During good behavior. This certainty of tenure secures independence and fearlessness of action on the part of a judge, while confidence in his ability grows as his experience increases.

6. (1) Must be signed in open session by the presiding officer of each house and must then be approved by the governor. (2) Failing his signature it may be passed, over his veto, by a majority-elect of both houses. (3) If it be not returned by the governor within ten days (Sundays excepted) it becomes a law without his approval. Similarly in Congress: (1) A bill passing both houses by a majority of those present, and being signed by the president becomes a law. (2) Failing to receive the president's signature it may be passed over his veto by a two-thirds vote of those present. (3) If a bill is not returned by the president within ten days (Sundays excepted) it becomes a law without his approval.

7. Congress is the name given to our national legislative body, and includes both the Senate and House of Representatives. The name is also given to the period during which an organization of this body continues. The limit of this period is two years. For example, the 51st Congress expired by limitation March 4, 1893, and the 52d Congress would convene on the first Monday of the December following unless called together in extra session by the president. This congress would in turn expire March 4, 1895.

8. Qualifications for County Superintendent: Good moral character, good English education, ability to examine teachers, age of twenty-four

years, two year's residence in state, one year's residence in the county, and the possession of a state diploma, state certificate, or a first-class county certificate granted by the regular county board or a special board. Qualifications for trustee: Good character, age of twenty-one years and ability to read and write.

9. Interest will be aided by making the study as concrete as possible. Study municipal, county, state and federal government side by side, showing points of resemblance. Help pupils to keep posted on names of prominent officials. Call attention to elections and to meetings of council, legislature and congress as examples of proceedings in accordance with the principles studied.

PHYSIOLOGY.

1. Why does not a fall hurt a child as much as it does a grown person?

2. Why is the shoulder more likely to be dislocated than the hip?

3. Name the poisonous elements in tobacco and describe carefully its effects on a growing boy. What method would you adopt to curtail or prevent its use in your school?

4. Name and describe the organs of speech.

5. What habits impair the power of the lungs? How do we breathe?

6. Name the evil effects of rapid eating.

7. Describe in full the human brain.

8. What three stages are there in the effect of alcohol on the nervous system? Describe each.

9. Name the disease arising from improper ventilation, insufficient food and lack of exercise.

1. The child naturally has more fat to protect the skeleton while the bones are more elastic.

2. The former has a more shallow socket than the latter.

3. Nicotine. Its first effect is nausea. More serious effects from persistent and continued use are nervous irritability, weakness of heart action, and tremor of muscles. Show these effects by living examples, and by anecdotes. Perform experiments to show its influence upon animals. Prohibit its use absolutely upon the school premises.

4. The so-called organs of speech are the tongue, teeth, lips and palate. The tongue is a muscular organ extending from the upper and forward part of the throat to the front of the mouth. It is the organ of taste. The teeth, thirty-two in number, resemble bony matter, but properly belong to the integumentary system. Eight are incisors, four are canine, eight bicuspid, and twelve molar. The lips are fleshy, muscular lids covered within with mucous membrane, and closing the cavity of the mouth. The soft palate is a small spongy organ, covered with mucous membrane, and pendant from the anterior portion of the roof of the mouth.

5. Habitual stooping and tight clothing. Breathing consists of inspiration and expiration. The former is a muscular action by which the chest cavity is enlarged and the air flows in. When the muscles relax the air is, in turn, driven out.

6. Imperfect mastication prevents proper action of the saliva, gastric juice, and other secretions upon the food, all of which are essential in full digestion. Complete nutrition is thus impossible, while the digestive organs, being over-worked, dyspepsia and other troubles naturally follow.

7. The brain is a soft, oval mass of matter lodged in the skull, consisting chiefly of the cerebrum in upper and front part of the skull, and cerebellum in back part. Each portion of the brain is almost entirely divided so as to form hemispheres. The outer portion consists of gray nerve-cells and

numerous blood vessels, while within are whitish nerve fibers. Enclosing the brain are three membranes, the pia mater, the arachnoid and the dura mater.

8. The stage of excitement—the nerves so paralyzed that they fail to regulate the circulation, which in consequence moves with unusual energy. The stage of weakness during which reason often yields to animal instincts. The stage of prostration in which muscular control fails and unconsciousness follows.

9. Asphyxia. Inanition.

THEORY AND PRACTICE.

1. What should be the greatest accomplishment of all human beings? Why?
2. What does the theory and practice of teaching embrace? What work or works have you read on this subject?
3. With what apparatus should schools be supplied?
4. What are the employments of a school? Explain the necessity of seeing that all are employed.
5. What preparation should the teacher make for the recitation? To what extent should she assist the pupils in the recitation?
6. Define school ethics. What books have you read on the Theory and Practice of Teaching?
7. What do you consider proper school punishment?
8. What relation does the school hold to the State?
9. Name the elements of governing power that an ideal teacher should possess. Name the necessary conditions of easy control.

1. Perfect self-direction and self-determination. Because this must be the basis of the highest human endeavor.

2. Theory and practice of teaching embrace an understanding of the principles of pedagogy and a knowledge of their application.

3. Schools should be supplied with all apparatus that will aid in developing the complete round of the child's life. The knowing, feeling and willing are to be developed. All apparatus that will aid in developing the sense-perception should be supplied; with the senses properly trained the other forms of knowing will not suffer. Every child deserves his heritage in the aesthetic world and so the schools should be supplied with something of the world's architecture, sculpture, painting, music and literature. Whatever will aid in making the child a *doer* should be supplied.

4. This question is not clear. The thing desired on the part of each pupil is his largest self-activity. The necessity of all members being employed has its ground in the fact that the school is an organism, every member of which is working toward the same end. One cannot be idle without disturbing others.

5. The teacher should know just what he is going to teach in each recitation. This involves a knowledge of the whole subject with the part in its proper relation. Special preparation should be made by the teacher for each recitation. There is no one thing which contributes so largely to successful and enjoyable teaching as daily preparation. The teacher can best assist the pupils by knowing them so well that he can pitch a presentation so that it will stimulate to the greatest self-activity.

6. School ethics are not different from any other ethics. The child is to remember that he a member of an organism and is to act for the whole instead of for himself.

7. Punishment that is truly retributive. Slapping, and whipping hands, and making children stand on one foot, and making them stand and

hold something over the head, and other things of such character are barbarous. Teachers should never punish in anger; a good way is always to wait twenty-four hours.

8. The school is the child of the state. The state established the school that through it the state might educate all its children and so perpetuate itself.

9. The ideal teacher will always *lead* and never *drive*. He will always have some goal to which he is leading. He will be so sincere in his efforts to help his pupils that they will believe thoroughly in him. Then the questions of government and control are eliminated.

GEOGRAPHY.

1. Define meridian, parallel, great circle, basin, erosion.
2. Compare climate, surface, products and people of West Virginia to those of Switzerland.
3. Why do forests extend further north on the western coast of North America than the eastern? What effect have they on the climate and drainage of a country?
4. Bound Turkey. What form of government has it? Tell what you know of recent events in that country.
5. Bound Venezuela; describe its surface and give its products. Explain at some length in what way our people recently became interested in that country.
6. Over what waters would a vessel sail in going from Hong Kong to Rio Janeiro?
7. Write a description of the Sandwich Islands, the description to be at least ten lines in length and to give the form of government, products, etc.
8. Name and locate the three largest cities in each of the following countries: United States, Germany, Brazil, Australia and France.
9. Where is found the highest elevation of the earth? The lowest depression?

1. Meridians are lines passing from pole to pole, crossing the equator at right angles. *Parallels* pass around the earth from east to west, being parallel to the equator and to each other. A *great circle* is one that divides the earth into hemispheres. A *basin* is the surface of land joined by a river and its tributaries. *Erosion* is the grinding and wearing away of a surface, as by water, glaciers, etc.

2. Switzerland has greater diversity of climate than West Virginia owing to the greater elevation of its mountains. However, the mean average temperature is about the same. Both regions have fertile valleys well adapted to grazing and the raising of staple farm products. West Virginia yields more minerals while Switzerland surpasses in manufactures. The people of Switzerland are noted for their thrift and patriotism.

3. The western coast is warmer, owing to the influence of oceanic currents. Forests help hold moisture, and thus allow the surplus rainfall to pass off gradually. They help to hold vapor in solution in the air, and as damp air is less subject to change in temperature than dry air, the presence of forests modifies the climate. Moreover winds blow less violently when forests obstruct their progress.

4. North by Montenegro, Servia, and Bulgaria; east by the Black Sea, the Bosphorus, and *Marmora*; South by the Dardanelles, the Archipelago, and Greece; west by the Strait of Otranto and the Adriatic. The government is an absolute monarchy. The Sultan has permitted his soldiers in Armenia to murder thousands of Christians. Religious strife in Crete led to an attempt recently by Greece to annex that island, which is under Turkish rule. This led to war with Turkey in which Greece lost, and the powers of Europe called a halt. Greece will have to pay a war indemnity.

5. North by Caribbean Sea; east by British Guiana and Brazil; south by Brazil; west by United States of Columbia. There was an evident attempt by Great Britain to push her boundary line westward, and the United States, regarding that action a violation of the Monroe doctrine, demanded and secured arbitration for the disputed question.

6. On the Atlantic Ocean, Strait of Magellan, Pacific Ocean.

7. The Sandwich or Hawaiian Islands consist of a group of fifteen islands. Hawaii is the largest and contains the active volcano Kilauea. The natives are progressive, though the constitutional monarchy was overthrown a few years ago, and a republic established with an American as president. Honolulu is the chief sea-port. Sugar is an important product.

8. New York, at the mouth of the Hudson River; Berlin on Spree; Rio Janeiro on the Atlantic Ocean; Melbourne in Victoria, on Bass Strait; Paris, on the Seine.

9. Mt. Everest in the Himalaya Mountains. The Dead Sea, whose surface is 1,300 feet below that of the Mediterranean.

COMPOSITION.

1. Write a short article of news for a daily paper.
2. Distinguish direct and indirect quotations. What difference between the ways in which they are written? Illustrate.
3. Define metonymy, climax, and illustrate each with a sentence.
4. Explain what is described in this allegorical selection:
Vessels large may venture more,
But little boats should keep near the shore.
5. What is the superscription of a letter?
6. Give outline for writing a biographical sketch, and write a short biographical sketch of Bryan or McKinley.
7. What are the principal forms of prose composition?
8. Prepare an outline for a composition on one of the following subjects: (a) Decoration Day. (b) The Habits of the Dog. (c) Life of Washington.
9. Write a composition of one page on any subject of your own selection.

2. A direct quotation is a sentence or sentences in which the author expresses the exact thought of another in that author's exact words; e. g., Socrates said, "Know thyself."

An indirect quotation is a sentence or sentences in which the author expresses the thought of another in the words of the author of the sentence; e. g., The traveler said that he was weary.

A direct quotation should be enclosed in quotation marks, should begin with a capital letter and is usually set off from the rest of the sentence with a comma. If it is formally introduced it should be set off from the rest of the sentence by the colon. The indirect quotation is punctuated like the substantive clause.

3. Metonymy is that figure of speech in which a change of names which have some relation to each other occurs; e. g., The man keeps a good table. But we substitute the word "table" on which the provisions are served for the term provisions.

Climax is that figure of speech in which the words of the sentence are arranged in the order of the importance, force, or dignity of the ideas expressed by them; e. g., "Revenge,—about,—seek,—burn,—fire,—kill,—slay,—let not a traitor live!"

4. The selection means that strong people, or people with great ability may undertake great things; but that people with moderate ability

should confine themselves to work and enter prizes within their reach or capabilities.

5. The superscription of a letter is the name and address of the person to whom the letter is directed, and is written both at the head of the letter and upon the envelope containing the letter.

6. See the answer to the eighth question.

7. The principal forms of prose composition are as follows: Essays, letters, biography, novels, history, memoirs, etc.

8. Life of Washington.

(a) Time of birth.

(b) Place of birth.

(c) Early life.

(1) Ancestry.

(2) Home life.

(3) Education.

(d) Character.

(e) Life work.

(f) Death.

9. See any of the articles in this journal.

ARITHMETIC.

1. A has \$2,400.00; $\frac{5}{8}$ of his money, plus \$500.00, is 4-5 of B's; how much has B?

2. Multiply $\frac{7\frac{1}{2}}{9\frac{1}{2}}$ of $\frac{2\frac{1}{2}}{3\frac{1}{2}}$ by $\frac{1\frac{1}{2}}{4}$

3. The longitude of Springfield, Mass., is $72^{\circ} 35' 45''$ west, and of Galveston, Texas, $94^{\circ} 40' 34''$ west; when it is 20 minutes past 6 o'clock, A. M., at Springfield, what time is it at Galveston?

4. A rope is drawn tight across a street 200 feet wide, each end being 60 feet above the street. One end is fastened and the other runs on a pulley. How much surplus rope will be required so that the rope may be lowered until it touches the ground at the center of the street and the end of the rope just come to the pulley? The rope is supposed to be drawn tight, when down, by a weight at the center of the street.

5. A man cleared \$19 in 25 days by earning \$1.25 each day he worked and spending 50 cents each day he was idle. How many days did he work?

6. Find the compound interest of \$800.00 for 2 years, 7 months, 20 days, payable semi-annually.

7. Divide 6 days 5 hours 10 min. 80 sec. by 15, and multiply the result by $1\frac{1}{2}$.

8. At what discount must I buy stocks so that by selling at 2% premium I may gain 20% on my investments?

9. I wish to borrow \$200 from a bank for 8 months; for what must I give my note if money is worth 6% per annum.

10. If 20 men in 10 days of 8 hours each dig a ditch 150 feet long, 4 feet wide and 3 feet deep, what length of ditch 8 feet wide and 2 feet deep could be dug by 16 boys in 12 days of 6 hours each, if a boy does only half as much work as a man?

1. $\frac{2}{3}$ of \$2400 = \$1500. \$1500 + \$500 = \$2000 = $\frac{4}{5}$ of B's money. $\frac{4}{5} = \frac{1}{5}$ of \$2000, or \$500. $\frac{1}{5} = \frac{1}{5}$ of \$2500.

2. Reducing the fractions gives

$$\frac{1\frac{1}{2}}{9\frac{1}{2}} \times \frac{2\frac{1}{2}}{3\frac{1}{2}} \times \frac{1\frac{1}{2}}{4} \times \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4}.$$

cancellation gives $\frac{1}{15}$.

3. The difference in longitude is $22^{\circ} 10' 49''$. Dividing by 15 gives the difference in time, 1 h. 28 m. $43\frac{1}{3}$ sec. Galveston is earlier than Springfield; hence, 6 h. 20 m. minus 1 h. 28 m. $43\frac{1}{3}$ sec. gives 4 h. 51 m. $16\frac{2}{3}$ sec. time at Galveston.

4. One-half the width of the street, and the distance from the street to the pulley are respectively base and altitude of a right angled triangle.

$$\sqrt{100 + 60^2} = 116.6+ = \text{hypotenuse.}$$

Distance from pulley to center of street, and then up to where other end of rope is fastened is $116.6+ \times 2 = 233.2+$ feet. $233.2 - 200 = 33.2$ feet surplus.

5. If he had worked every day he would have earned \$31.25; hence, he lost \$31.25 - \$19, or \$12.25 through idleness. His loss per day was \$12.25, what he might have earned, and 50 cents

that he spent. $\$12.25 \div (1.25 + 50) = 7$. If he was idle 7 days he worked 18 days.

6. No rate being mentioned 8% is assumed. This would be 4% per period of six months.

$\$300 \times .04$ plus the principal = $\$312$.
 $312 \times .04$ plus the principal = 324.48
 $324.48 \times .04$ plus the principal = 337.459
 $337.459 \times .04$ plus the principal = 350.947
 $350.947 \times .04$ plus the principal = 364.985
 $364.985 \times .011\frac{1}{2}$ plus the principal = 369.04

$\$369.04 - \$300 = \$69.04$ compound interest.

7. 6 da. 5 h. 10 m. 30 sec. $\div 15 = 9$ h. 56 m. 42 sec. Multiplying by $11\frac{1}{2}$ gives 4 da. $17\frac{1}{2}$ h. 52 m. 3 sec., or 4 da. 18 h. 22 m. 3 sec.

8. The selling price, 102 would be 120% of the cost. $102 \div 1.20 = 85$ cost. $100\% - 85\% = 15\%$ discount.

9. Discount on $\$1$ at 6% for 3 mo. 3 da. = .0155 and the proceeds = $\$1.00 - .0155$ or .9845. To yield $\$200$ would require $\$200 \div .9845$ or $\$203.15$.

10. 16 boys are equivalent to 8 men. Then stating the problem by proportion gives

$20 : 8$
 $10 : 12$
 $8 : 6 :: 150 : 108$, required length.
 $3 : 4$
 $2 : 3$

GRAMMAR.

1. In what mode and tense is each verb in each of the following sentences: (a) Were I rich, I would comfort the poor. (b) Do what you believe to be your duty and leave the consequences to God. (c) It is better to deserve than to court praise.

2. Give principal parts of the following verbs: Rise, eat, dive, go, sit, forsake, hit, wear, ride, take.

3. When infinitives or participles are used as nouns, what modifiers do they take?

4. What is meant by the normal use of a word? The abnormal? The idiomatic?

5. Write the synopsis of the verb *see*.

6. Parse the italicized words:

This man *is freed* from servile bands
Of hope to rise or fear to fall;
Lord of himself, through riot of lands;
And having nothing yet hath all.

7. How many classes of common nouns? Give sentences containing each.

8. Define ellipsis, abridgement, mode, synopsis, participle.

9. Analyze or diagram:

'Tis an old maxim in the schools,
 That flattery's the food for fools;
 Yet now and then your men of wit
 Will condescend to take a bit.

1. The verb "were" is in the subjunctive mode. It is past tense form expressing a relation in the present. The verb, "would comfort" is imperative or potential mode. It is past tense form expressing a relation in future time. The verbs "do" and "leave" are in the imperative mode and are present tense. The verb "is" is indicative mode, present tense.

2. Rise, rose, risen; eat, ate, eaten; dive, dived, dived; go, went, gone; sit, sat, sat; forsake, forsook, forsaken; hit, hit, hit; wear, wore, worn; take, took, taken.

3. Infinitives or participles used as nouns may take the modifiers usually taken by nouns, in addition to the modifiers which may belong to the verb from which the infinitive or participle is formed.

4. By the normal use of a word we mean the use of a word when it expresses its ordinary or usual meaning. The abnormal use of a word is the use of it in a technical or peculiar sense. The idiomatic use of a word is the use of a word peculiar to the language to which it belongs.

5. See any good text in grammar.

6. The word, "is" is a pure verb, indicative mode, present tense, third person, singular number. It is used to express the relation between thought subject and thought predicate. The word, "freed" is a participle used as the principal part of the predicate; "to rise" is an infinitive used as an adjective modifier of the word, "hope." The word, "fear" is a noun used as the principal word of the prepositional phrase, "[of] fear to fall." "To fall" is an infinitive used as an adjective modifier of the noun "fear." The word, "lord" is a noun used as the principal part of the predicate of the clause "[he is] lord of himself." The word, "himself" is a pronoun used as the principal part of the prepositional phrase, "of himself." The word, "through" is a preposition used as the relation word of the prepositional phrase, "through riot of lands." The word, "riot" is a noun used as the principal word of the prepositional phrase. The word, "having" is a participle used as an adjective modifier of the word, "he" understood. The word, "yet" is a coordinate conjunction expressing the relation of opposition.

7. There are three classes of common nouns: (a) Class noun; e. g., The *book* is valuable. (b) The collective noun; e. g., The *herd* was driven to pasture. (c) The substance noun; e. g., The *wood* in the table is cherry.

8. Ellipsis is a figure of syntax by which one or more words are omitted from a sentence; e. g., He possesses the heroic virtues I admire; for, He possesses the heroic virtues *which* I admire.

Abridgment is that irregularity in sentence construction in which the common element or elements of a compound thought are expressed but once; e. g., the old man spoke deliberately and in an incoherent manner.

Mode is that attribute of the verb which expresses the manner of the assertion. Mode is that attribute of the verb which expresses the phases of relation which exist between thought subject and thought predicate. Mode is that attribute of the verb which expresses the relation between the thought in the mind and the fact or reality in the external world.

The synopsis of a verb consists in giving all the forms of a verb in the different modes, tenses, voices, in the single person and number. The participle is the derived form of the verb without the asserting element, and may be used substantively or attributively.

9. This is a compound-complex, declarative sentence. The first part is the expression, "'Tis an old maxim in the schools, That flattery's the food for fools;" The second part is the expression, "Yet now and then your men of wit will condescend to take a bit." The subject of the first part is the words, "It that flattery's the food for fools," the principal word is "it" modified by the substantive clause, "that flattery's the food for fools" used as an appositive modifier. The copula is the word, "is." The predicate is the words, "an old maxim in the schools." The subject of the second part is the words, "your men of wit;" the predicate is the words, "will condescend to take a bit now and then." The copula is implied in the verb "will condescend." The word, "yet" is a conjunction expressing the relation of opposition between the two thoughts of equal rank.

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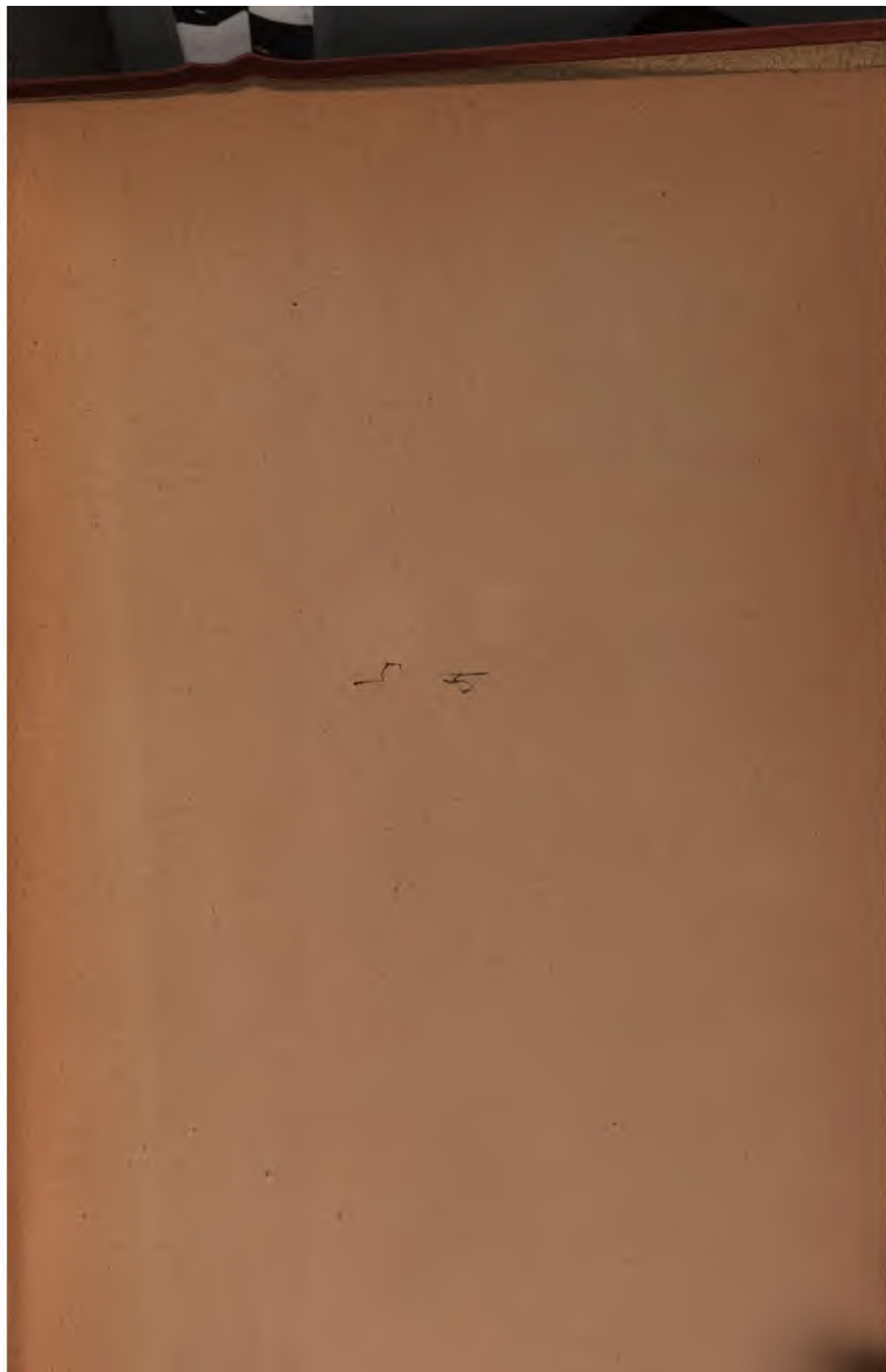
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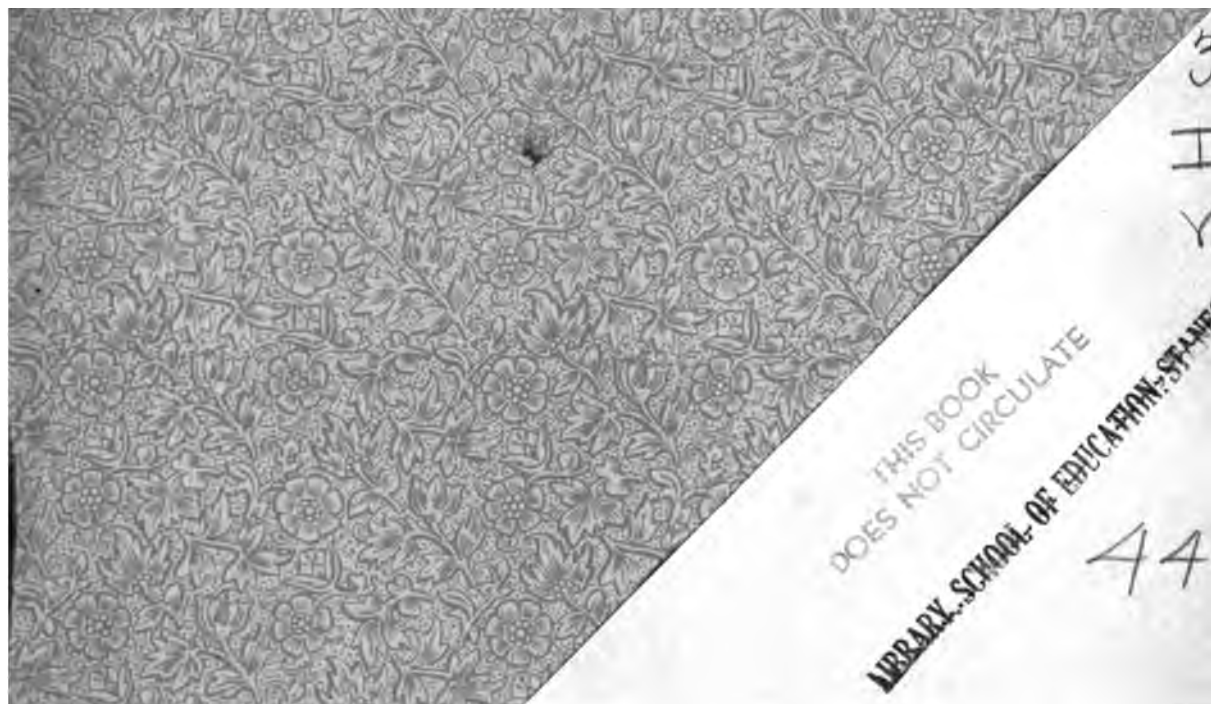
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